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Time devoted by women to selected household tasks, 1975-1981: implications for assessing change in standards

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Time devoted by women to selected household tasks, 1975-1981: implications for assessing change in standards

by

Deanna Lee Black Sharpe

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CHAPTER 1: INTRODUCTION

The Purpose of This Study

The purpose of this study is to ascertain the determinants of change in the amount of time that women devote to meal preparation and cleanup, and to house cleaning and to relate the change in this time use to the change in the level of satisfaction reported for the outcome of the activities performed. The data used to accomplish this purpose are the data that pertain to the single and married women in the Time Use Longitudinal Panel Study, 1975-1981. The information regarding the amount of time that the women devote to meal preparation and cleanup and to household cleaning, the satisfaction with the outcome of those tasks, and the characteristics of the individual women and their families are of interest in this study.

Importance of this Study

The importance of this study is derived from two factors. The first is empirical in nature. The second is theoretical in nature.

Empirical aspect

In recent years, the labor force participation of women in the United States has increased. In 1970, the percentage of women between the ages of 18 to 65 who were employed

outside the home was 43.3 percent. By 1980, this percentage had increased to a then-historic high of 51.2. Noting the rising trend of female labor force participation, some experts project that by the end of this century, approximately three-quarters of the women who are between the ages of 18 and 65 will be employed or actively looking for work (Gerson, 1985, p. 1).

This migration of women from the home to the market has attracted the attention of those who are interested in the study of the family and of family functioning (Geerken & Grove, 1983; Gerson, 1985; Pleck, 1985). In years past, the idea that work accomplished within the home for the care, nurturance, and development of family members was "woman's work" was a commonly accepted and relatively unquestioned notion. With the increase in female labor force partcipation, this notion is now being challenged. Reseachers have begun to investigate who is doing the work in the home and how the work within the home is being accomplished (Walker & Woods, 1976; Nichols & Metzen, 1978; Sanik, 1981; Geerken & Grove, 1983; Gerson, 1985; Pleck, 1985).

Using time use data that were collected during the mid-1970s, Walker and Woods (1976) found that married women who were not employed devote about 8 hours per day to household work. Married women who work outside the home for 30 or

more hours per week spend about 5 hours per day on household tasks. In contrast, the husbands of both the not employed and the employed women average about 2 hours per day on household work (Walker & Woods, 1976). The difference in household work time between the wives and husbands in the Walker and Woods study suggests that the women who are employed outside the home, in effect, have two jobs, one in the market and one at home. The experience of a woman in this situation has been termed "role overload" (Nichols & Metzen, 1978; Pleck, 1985).

In the span of time between the 1970s and the 1980s, changing social and economic forces in the lives of women encouraged many of them to seriously question the necessity of this role overload (Gerken & Grove, 1983; Gerson, 1985; Pleck, 1985). Many women began to reconsider the accepted tradition that household work is their responsibility alone.

The extent to which this evolutionary change in ideology has actually affected the amount of time that women devote to household tasks is an issue that may be researched. And, given a change in the household work time of women, research can also help reveal the concomitants of that change.

These issues may be considered as a series of interrelated questions. Has the amount of time that women devote to household tasks changed over time? If a change

has occurred, what has accompanied that change? Has the need for the woman's services in household tasks been altered in some way? For example, adding a spouse or children to the household would, presumably, increase the need for household work to be performed. Conversely, loss of a spouse through death or marital dissolution and/or a child reaching maturity and leaving home would tend to reduce the need for household task performance.

Has the amount of time and energy that a woman has to devote to household tasks been altered? Entry into the labor force constrains the amount of time available for household work. A decline in health, while not necessarily affecting the amount of time available to prepare meals, cleanup after meals, and clean the house, could make it necessary for a woman to take a longer period of time to complete a given task than she would require if she were in good health.

If changes have occurred to alter the need for a woman's services in the household or her time available to perform those services, has she attempted to maintain approximately the same quantity and quality of output or has she made adjustments? Suppose, for example, the need for a woman's services in the home has not declined, but she has begun to work full time outside the home. Does she attempt to maintain approximately the same quantity and quality of

output by enlisting the aid of others in the household to accomplish the household work? Or has she relied more heavily on the usage of household durables, in effect substituting household technology for household labor? Or has she changed the quantity and/or quality of what she deems as acceptable output from the performance of household tasks?

This study investigates the types of adjustments that women have made in the amount of time that they devote to specific household tasks -- meal preparation, meal cleanup, and house cleaning -- between the years 1975 and 1981. Further, this study examines the extent to which demographic, social, economic, technological, and psychological factors have influenced these adjustments over time.

Importance to theoretical development

The advancement of any field of study as a scientific field of inquiry depends, to a large extent, on the quality of the theory development in that field. To the field of family resource management, this fact presents both problem and challenge.

Family resource management is a major component of the broader field of home economics. And, like the broader field of study of which it is a part, family resource

management has developed as a practical discipline which has focused on the processes necessary to meet human needs within the arena of family life. For both home economics in general and family resource management in particular, attention to theoretical development has lagged behind attention to practical application.

This focus on the practical versus the theoretical may be attributed, at least in part, to the multifaceted nature of family life. No singular approach to the study of family life adequately captures this multifaceted nature. Consequently, the study of family life is multidisciplinary.

There are those who would accuse home economists of simply using bits and pieces of theory from other disciplines without developing any theory of their own (see, for example, Busby, 1977; Thorne, 1979). There are others who would insist that the study of the family demands a broad theoretical foundation and, further, that systems theory is that foundation (Deacon & Firebaugh, 1981; Deacon & Firebaugh, 1988).

Within the field of family resource management, Deacon and Firebaugh have developed a theory of the managerial process of the family based on a systems theory orientation. The model that they propose is explicated in detail in Chapter 2. Their model functions more efficiently as a conceptual framework than a theory, as it organizes concepts

and illustrates the relationships between and among those concepts.

Further development of their framework has been hindered because there have not been many empirical studies that focus on the identification and measurement of the concepts themselves. (There have, however, been several studies that use the Deacon and Firebaugh framework as a basis for testing the relationships of variables. Meeks and Firebaugh (1974) and Davis and Helmick (1985) are examples of this type of research.) The lack of empirical studies of the concepts of the model is due, at least in part, to the difficulty of establishing the existence and the behavior of these concepts in empirical work.

The measurement of standards is a case in point. Standards, which are defined as "measures of quantity and/or quality that reflect the reconciliation of resources with demands," (Deacon & Firebaugh, 1981, p. 230) have received relatively limited attention in the literature, even in those studies that use the Deacon and Firebaugh systems framework. This lack of attention may be due to data limitations. In data gathering questionnaires, persons are seldom asked to report the quantity or quality of a good or a service that they either desire or have acquired.

Maloch and Deacon (1970) attempted to ascertain whether the standards that women had for homemaking were variable.

They identified selected attributes of standards: clarity, flexibility, reality, complexity, and situationality (Maloch & Deacon, 1970). Clarity pertains to the degree to which the quantity and/or quality of a standard is explictily stated. The range of acceptable quantity and/or quality indicates the flexibility of a standard. The greater the agreement between the standard set and what is actually available in the market, the greater the reality of the standard. The complexity of a standard depends on the number persons and tasks involved in achieving the standard that had been set. And, situationality is the "relationship of the standard to existing conditions" (Maloch & Deacon, 1970).

Sheffield (1976) examined the "intensity of managerial standards" for a particular demand and the resource allocation used by the family unit to meet the demand. The intensity of the standard was defined as the product of the reported importance of the item in question and the resources distributed to the item. Resource distribution was defined as money expenditure for the item divided by number of hours of market employment (Sheffield, 1976).

If standards do exist and do exert an influence on the managerial processes of individuals and families, evidence to that fact should exist. If evidence exists, and that evidence is observed and catalogued, then the Deacon and

Firebaugh model of managerial behavior becomes that much stronger. In this study, it is assumed that standards are a part of the factors that motivate action to meet a given goal. Further, it is also assumed that indirect evidence of standards may be observed by examining the time devoted to given household tasks at two points in time and holding factors that are known to affect time use constant.

Assumptions

Several assumptions are present in this study. It is assumed that the process of using resources to meet goals within a family unit is accurately described by the typology proposed by Deacon and Firebaugh (1988). In their conceptual framework of the managerial process, Deacon and Firebaugh divide the family system into two distinct parts, the personal subsystem and the managerial subsystem. The personal subsystem generates the goals and the managerial subsystem takes the goals as given, and acts to clarify and bring about completion of those goals. The managerial subsystem includes two behaviors, planning action and implementing action. Planning action is assumed to be largely mental and, as such, conscious, cognitive, and not easily detected by observation. It is further assumed that the amount of time that women devote to meal preparation,

meal cleanup, and house cleaning is related to standards set concerning those tasks.

Limitations

This study focuses on the time allocation decisions American adult women have made with respect to selected household tasks during a given segment of time. Several limitations may be noted in this focus. First, the study pertains to a given culture. Possible cultural differences present in women reared in a non-American culture preclude generalizing the results obtained in this study to all women everywhere.

Second, it is recognized that all members of a household may alter time devoted to household tasks as ideas about who should do that type of work and/or conditions that influence the need for that type of work change. The focus on adult women is not intended to imply that the time contributions of other household members to household work are not important. Within this data set, information on the household work time of other family members is limited. In the households where a husband is present, the time he contributes to meal preparation, meal cleanup, and house cleaning is reported. But, within any given household, other adults may be present, such as an aunt or a grandfather. Children can also perform household work, and

their ability to do such work, in the absence of unusual circumstances, increases as they mature.

In this data set, time use data were not collected for each household member. Records of the amount of time that the children might contribute to household task performance were obtained only in the 1980-1981 data collection and for only a select group of children, rather than for all children in the household.

Because it is known that, of all members of the household, typically it is the woman who devotes the greater proportion of time to household tasks (see, for example, Walker & Woods, 1976), this limitation is not as great as it might otherwise seem. Further, in this study, where appropriate, the amount of time that husbands contribute to household tasks is also considered.

Third, the study pertains to a given era of time, specifically, the years 1975 through 1981. This period of time was one of great change in the ideology and actions of women, both inside and outside the home. The changes evident in this time period have not ceased, but have continued. Thus, the results of this study may or may not reflect the ideas and actions of American women in the present day.

Fourth, the number of household tasks included in this study is limited. Specifically, this study focuses on the

amount of time that women devote to preparing for meals, cleaning up after meals, and indoor care of the dwelling. Lack of data on satisfaction with specific areas of household task performance forced the study to be confined to these two areas. But, it is also true that each of these areas is an important area of family managerial behavior for several reasons. First, both areas directly influence family well-being. Meal preparation in some form is necessary for the physical survival of family members. Physical survival is much less of an issue with cleanliness of the home, although a case could be made at the extreme that living in a poorly-cleaned environment could contribute to development of disease or death. So, up to a certain point, cleanliness of the home is necessary for physical health. For most American families, however, the level of cleanliness necessary to meet this requirement is achieved. It could be that these families are obtaining a measure of psychological health as a reward for their efforts.

Second, both meal preparation and indoor household cleaning have readily available market substitutes. Of the two household tasks, meal preparation has, perhaps, the greater range of market substitutes available. Materials necessary for food preparation may be purchased in raw form and undergo extensive transformation before being served or an entire meal, already complete and ready for consumption,

may be purchased. This fact permits some observation of the degree to which women decide to substitute market goods and services for their own labor in the home.

Finally, meal preparation has consistently been the largest category of household time use (Walker & Woods, 1976; Vanek, 1974). Further, Vanek (1974) found that, for women who were not employed outside the home, time spent in care of the house was second only to time spent in meal preparation. Thus, both categories represent significant investments of time by women and are, therefore, important categories to examine.

The Conceptual Model

The conceptual model is illustrated in Figure 1. It is hypothesized that:

(1) The amount of time that a woman devotes to a given household task is influenced and constrained by certain demographic, social, economic, technological, and psychological factors that pertain to that woman.

(2) The amount of time that she devotes to a given task, in turn, has an influence on her level of satisfaction with the output of that task.

(3) Over time, her initial level of satisfaction with the output of the task and any changes in demographic, social, economic, technological, and psychological factors are associated with a change in the amount of time that she devotes to the given household task.

(4) A change in the amount of time that she devotes to the task, in turn, is associated with a change in her level of satisfaction with the output of the task.

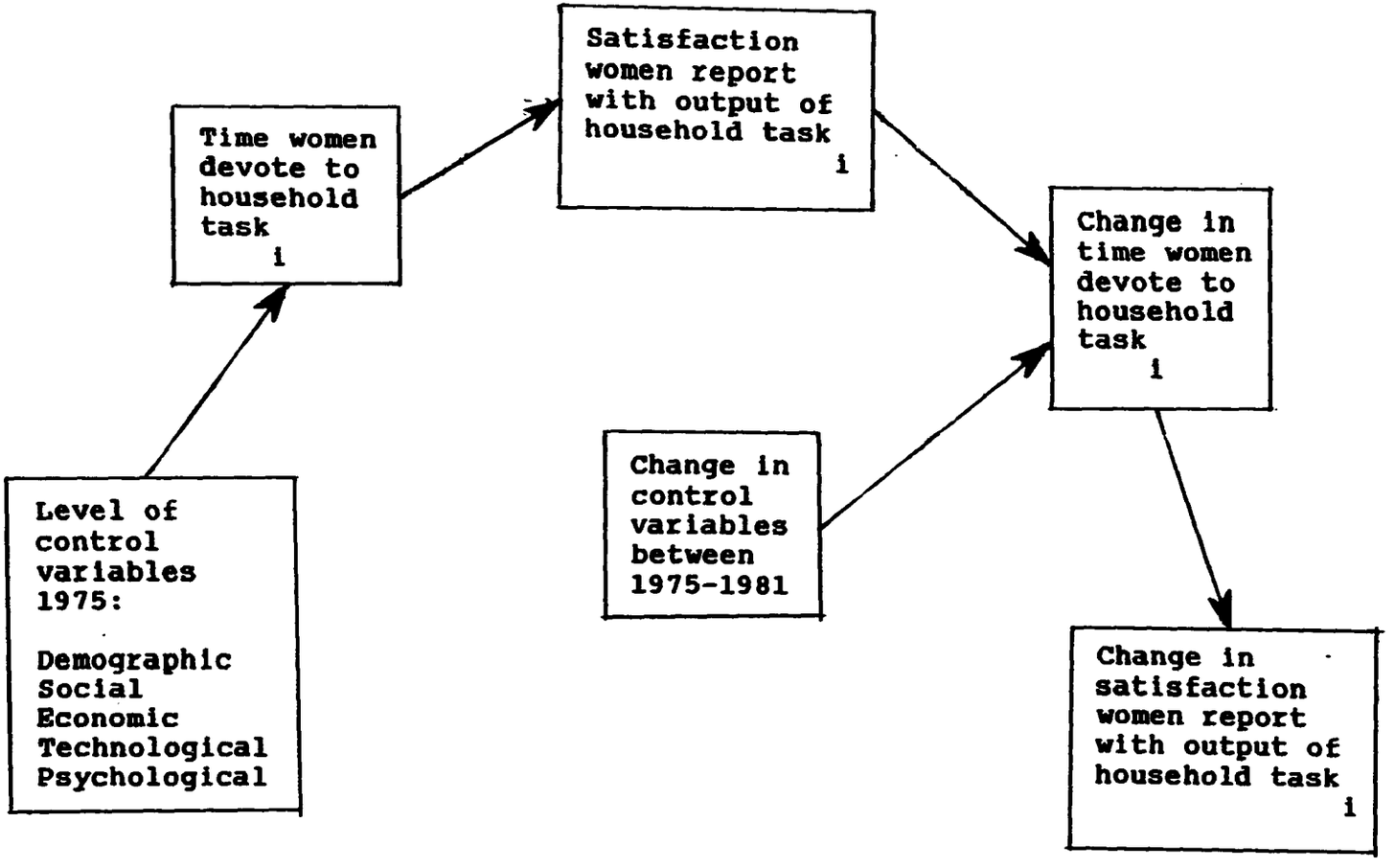

Figure 1. Conceptual model

CHAPTER 2: THEORETICAL BACKGROUND

Family resource management is, at once, an old art and a new science. Generation after generation, for as long as families have been in existence, the art of developing and using resources to meet the needs and desires of the family has been passed from parent to child. Much of this transfer of knowledge has taken place on an informal level, learned almost unconsciously in the daily practice of life. References in historical written records regarding management of family resources are few. The relative absence of efforts to identify the elements and the process of management is interesting. Perhaps, in more simple times, acceptance of traditional ways was sufficient.

In the early 1800s, school curriculums began to include courses that focused on aspects of home and family life. Catherine Beecher's text, Treatise on Domestic Economy, published in 1841, is generally recognized as the first text in the developing field of home economics (Gross, Crandall, & Knoll, 1973).

At the turn of the 19th century, a group of scholars interested in examining the contribution "domestic science" might have in improving individual and family welfare met at Lake Placid, New York. It was at these Lake Placid

Conferences, as they have come to be called, that household management was recognized as a needed field of study.

Early attempts to identify and measure the components of household management were practical and prescriptive in focus. Emphasis was placed on developing the skills necessary to perform specific tasks. Concordant with this ideology, several universities opened home management residences. These residences served as a laboratory for home economics students. The group living experiences were designed to hone student skills in such tasks as household cleaning, meal planning, entertaining guests, and caring for young children (Gross & Reynolds, 1931).

A normative stance was evident in the research of that time. Gross (1948) developed a measurement scale, or "ruler," for management activities. A variety of activities was included in her scale, in an attempt to capture the role of the family in developing members in several facets of life. Examples of activities included in the scale are having guests for dinner, mending clothing, canning food, and planning for the future education of children. Higher scores were indicative of "good" management. It is of interest to note that not all aspects of the scale were of equal weight. Almost one-third of the total point value attainable was associated with one category: looking to the future. Other categories were, in decending order of

weighted importance: conservation of time and energy, conservation of goods, conservation of money, and household production. Several assumptions are evident in the work. For example, church attendence is good, as is having guests for dinner.

In this and other early studies of management within the home, the focus was on the judicious use of several specific resources: time, human energy, and money. Studies were undertaken to find ways to reduce the physical burden of the rural homemaker's job (see, for example, Bailey, 1915; Bailey & Snyder, 1921). In studies of this type, the size of the physical burden was measured by the amount of time required for task performance.

Other studies followed then-current trends in industry and examined the amount of time and motion involved in the performance of household tasks. Lillian Gilbreth provided much of the impetus for this type of research. The wife of an "efficiency engineer", Mrs. Gilbreth applied the principles of time and motion efficiency to household work. The theory and practice of her ideas are explicated in two texts: The Homemaker and Her Job (1927), and Management and the Home (1954). Simplification of household tasks was the focus of research efforts made by Muse (1946), Wiegand (1954), and Steidl (1963).

Researchers sought factors that contributed to similarities and differences in resource use among families. Studies of this nature were done by Warren (1940), Wiegand (1954), Walker (1957), Gross and Zwemer (1944), Thorpe and Gross (1950), and Van Bortel and Gross (1951). More recent studies of this type have been done by Manning (1968), Walker and Woods (1976).

Gradually, researchers began to broaden their view of management within the home. Rather than seeing only isolated actions involving resource use, researchers began to notice connections between actions and the context of the actions. The role of values in decision making and the relationship between decision making and action was recognized (Nickell, Dorsey, & Budolfson, 1942; Gross & Crandall, 1954; Edwards, 1970). The research viewpoint became far less prescriptive about the solitary actions of management and far more descriptive of the process of management. Underscoring this evolutionary change of focus, scholars in the field began referring to "home management" with lesser frequency and to "family resource management" with greater frequency.

In recent years, research in family resource management has been characterized by a "holistic approach" which recognizes that family members decide resource development and use while both being influenced by and exerting an

influence on the broader environment of which the family is a part (Gross, Crandall, & Knoll, 1973). This shift in focus from the "particularistic" to the "holistic" has been greatly facilitated by the adaptation of general systems theory as a basis for modeling the managerial process.

General systems theory was initially developed within the biological sciences as a means of conceptualizing the relationships between and the interactions among biological entities. It was not long, however, before scholars in other disciplines began to notice the advantage that systems concepts afforded over existing theoretical frameworks for organizing concepts and describing relationships among those concepts. In particular, systems theory would permit the researcher to observe a given action within the environment relevant to that action and to isolate the impetus to action, the action taken in response to the impetus, and the result of the action taken. Further, the outcome of a given action could become impetus to further action, permitting a dynamic view of events.

Using the framework of systems theory, Deacon and Firebaugh (1988) developed a conceptual framework of the managerial process that takes place within the family system. In their conceptual framework, the term, "system," is defined as "an integrated set of parts that function to

accomplish a set of goals" (Deacon & Firebaugh, 1988, p. 7). Management is the means to "accomplish a set of goals" and is defined as "planning for and implementing the use of resources to meet demands" (Deacon & Firebaugh, 1988. p. 8). The family is portrayed as a relatively open and dynamic system. The primary unit of a complex ecological system or ecosystem, the family system is in constant interaction with the surrounding environment. Within this surrounding environment are systems that are external to the family such as community groups, schools, and local businesses.

Deacon and Firebaugh divide the family system into two major component parts: (1) the personal subsystem which is the source of values and goals, and (2) the managerial subsystem which takes values and goals as given and within which demands and resources are transformed into "demand responses" and "resource changes" (Deacon & Firebaugh, 1988). In practice, these two subsystems constantly interact. However, to better understand the managerial process described by Deacon and Firebaugh, the managerial subsystem may be examined in greater detail.

The managerial subsystem has two types of input: demands and resources. Demands may appear in two different forms, goals and events. Goals which have been established through the operation of the personal subsystem can be an impetus to action for the managerial subsystem. Events

(occurrences which are unexpected or have a low probability of happening) originating in the environment outside the family system, may impinge upon the managerial subsytem and be an impetus to action. Resources are simply the means available for meeting the demands. In general, these resources may be either human or material.

Demands and resources are transformed by the operation of two related processes: planning and implementing plans. Planning consists of decisions made regarding the acceptable quantity and quality of output desired and/or decisions made regarding the sequencing of tasks that are to be accomplished. Implementing plans calls for actually doing something, taking some action to carry out the plan. As the action is taken, it is checked against the standards of quantity and quality which have been set or against the decided sequence in which action is to proceed.

The output of the managerial process consists of demand responses, resource changes, and feedback. Demand responses are indicated by a change in objective or subjective conditions pertinent to the situation involved in the managerial subsystem. An example of a change in an objective condition could be the elimination of a debt or deficit condition when a bill is paid. An instance of a change in the subjective experience of the manager could be

an increase in the level of satisfaction with cleanliness of the home which comes as a result of organizing the contents of the living room.

The use of resources is indicated by a shift or change in the stock of means available to meet further demands. This shift may be directly observable, for example, a decline in cash on hand after paying a bill. Or the shift may be subjective, such as the decline in energy one might feel after working four hours in the yard on a fall afternoon.

Feedback is the portion of output that reenters the managerial subsystem as input. As input, the feedback may then affect subsequent output. It is not to be confused with the process of checking that takes place while resources and demands are undergoing the process of transformation. The distinction can be made on a temporal basis. Checking takes place during the process of transformation. The demand has not been completely met at this time. Feedback would arise after the demand has been met. In simple terms, one could consider feedback as the information one wanted to keep in mind the next time a similar situation arose.

This conceptualization the family managerial system is not the only one extant in the field of family resource managment. In a manner comparable to Deacon and Firebaugh,

Paolucci, Hall, and Axinn (1977) propose that management of family resources consists of making decisions and putting those decisons into action. In fact, the model of family managerial behavior proposed by Paolucci, Hall, and Axinn builds on the model proposed by Deacon and Firebaugh. Both models recognize that families are both influenced by and influence a greater environment. That environment would include generalized forces such as political forces, economic forces, social forces as well as specific groups such as the local PTA or the local union organization. However, the Paolucci, Hall, and Axinn conceptualization of the family mangerial process differs from the Deacon and Firebaugh conceptualization in the content and structure of the major component parts of the model.

Deacon and Firebaugh clearly separate activity in the managerial subsystem from activity in the personal subsystem. Activity in the personal subsystem would include such actions as socialization of children, emotional growth of family members, or development of values and goals. From the standpoint of managerial action, values and goals are taken as given. In contrast, Pauloucci, Hall, and Axinn make no such distinction. They would argue that development of family members as well as development of values and goals

is all a part of the decision making or planning aspect of the managerial process.

Recently, researchers have begun to turn attention to empirical testing of the conceptual frameworks used in family resource management. Heck and Douthitt (1982) develop an empirical model based on the conceptual framework of Deacon and Firebaugh (1981). Heck and Douthitt assert that, while other conceptual frameworks such as the one proposed by Paolucci, Hall, and Axin (1977) contribute to a philosophical understanding of the relationships among component parts of family resource management, it is the Deacon and Firebaugh framework that is the most readily amenable to empirical research.

Heck (1983) performed a "preliminary test" of the empirical model described in Heck and Douthitt (1982). She found that planning activity was associated with greater satisfaction with the output of that planned activity for certain household tasks. This finding provides empirical support for the Deacon and Firebaugh framework. An attempt is made in this present research to strengthen further the empirical support for the conceptual framework of family resource management proposed by Deacon and Firebaugh.

CHAPTER 3: LITERATURE REVIEW

In this chapter, the factors known to affect the amount of time that women devote to household tasks and the satisfaction achieved from those tasks are reviewed. Prior to this review, two important caveats must be made. First, as noted in a previous section, the focus of this present study is the amount of time that women devote to selected household tasks -- meal preparation, meal cleanup, and household cleaning. In contrast to this particularistic focus, virtually all of the studies reviewed in this chapter center attention on the amount of time that women devote to all household tasks. A review of studies with this broader focus was deemed necessary because there are few studies that give exclusive attention to any given household task. Further, those studies that do differentiate between household tasks examine a given task as it contributes to a woman's overall household work time. Given the fact that, taken together, meal preparation and cleanup and household cleaning constitute the greater portion of total household work time, it is reasonable to expect that the findings of the more general studies are relevant to this more specific study.

Second, many of the studies reviewed here have "housework" as the focus of interest. However, the

operational definition of that term has not been consistent across all of these studies. In some studies the measure of housework is not precise. The Panel Study of Income Dynamics is a case in point. In this data collection, the husband in husband-wife couples was asked to estimate the amount of time that his wife devotes to cleaning, meal preparation and cleanup, laundry, and financial recordkeeping. Clearly, there are some measurement problems with this approach as the report of time use is not being given by the person actually performing the activities in question.

Further, as Nichols and Metzen (1978) point out, the range of household tasks included in the measure is narrow. Exclusion of certain other household tasks contributes to a downward bias in the estimate of household work time. This bias may be more or less severe, depending on the research interest. For example, yard care and home maintenance activities are not included in the list. Since these types of household chores are commonly performed by the men in the household, estimates of the husband's contribution to household work is underreported (Hill, 1985). Further, tasks usually associated with the wife, such as home decoration, clothing construction, and other productive activites, are excluded.

An even more important omission is the time that the woman in the home devotes to transportation of children and traveling to and from the market to obtain goods and services for the household (Nichols & Metzen, 1978). Clearly, all studies that use the Panel Study of Income Dynamics data will share these limitations.

In contrast, some researchers have been much more explicit and detailed in their study of household work time. In general, these researchers have been either primary investigators or have used data collected by individuals whose primary interest was accurate collection of time use data. The work of Walker and Woods (1976) is a case in point. In their study, household work is equated with household production and "comprises the multiplicity of activities performed in individual households that result in goods and services that enable a family to function as a unit" (Walker & Woods, 1976, p. 1). This "multiplicity of activities" is classified as: food preparation, care of family members (including physical and nonphysical care of family members and care of pets), care of the house (including care of the yard and the car), care of clothing, marketing, and management (Walker & Woods, 1976). This same attention to detail may be found in research which uses a similar typology to classify and quantify household tasks. Examples include a study entitled Family Time Use: An

Eleven State Rural/Urban Comparison (1981) and the Time Use Longitudinal Panel Study which is used for this research. Clearly, the use of data from more detailed studies permits a more exact understanding of the time devoted to the activities performed within the household.

Factors Affecting Time Use of Women in the Household

The factors that have been identified as having an effect on the amount of time that women devote to household task performance may be broadly classified as family-related variables, socioeconomic attributes, and characteristics of housing (Nichols and Metzen, 1978).

Family-related variables

Age of the woman The relationship between the age of the woman in the home and the amount of time that she devotes to household work is not consistent across studies. Using a measure of household work closely parallel to that used by Walker and Woods (1976), Hall and Schroeder (1970) discovered that women aged 25 years and younger contribute 40.2 hours per week to household work. Between 26 and 40 years of age, women average 57.3 hours per week of work in the home. Average household work time is 45.1 hours per week for the group of women aged 41 to 65. Those women who were over 65 years of age work, on average, 53.1 hours per

week. This nonlinear pattern is interesting. However, Hall and Schroeder did not control for the fact that the age of the woman in the home is highly correlated with other factors that also have an impact on her household work time. For example, a woman between the ages of 26 and 40 is likely to be married and to have children at home. These facts alone imply she may spend more time in such chores as meal preparation, meal cleanup, and house cleaning, assuming the woman does not delegate much responsibility for household work to others. This assumption is not unreasonable for the early 1970s, which is the time that Hall and Schroeder did their study.

Gronau (1980) included the age of the woman among other variables in a multivariate regression analysis of the women's household work time for employed, married women. He found a positive and statistically significant relationship between the age of the woman and her household work time when her education and expected wage, the education and wage of her husband, family income, the number of children, the age of the youngest child, and the number of rooms were controlled. Gronau used the Panel Study of Income Dynamics as his source of data; thus, his results are subject to the limitations associated with that data collection.

Sharpe (1986) completed a regression analysis of the household work time of employed and not employed women. Her

analysis used controls similar to those used by Gronau, but also included nonlinear measures of several of the exogenous variables including age of the woman. Also, she used the 1981 portion of the Time Use Longitudinal Panel Study, which provided a superior measure of household work time. She found that the household work time of employed women decreases at a decreasing rate as age of the women increased. Household work time for the women who are not employed decreases at an increasing rate as age of the women increased. However, the relationship is not statistically significant for either group of women.

Marital status of the woman Few studies of the amount of time that women devote to household tasks have considered marital status as a variable. Studies of the factors that affect the time that women spend on household tasks most often focus on married women only (for example, Manning, 1968; Hall & Schroeder, 1970; Walker & Woods, 1976; Schram & Hafstrom, 1986) or, more narrowly, employed married women (for example Gronau, 1980; Stafford, 1983). When marital status is included among other factors thought to influence total household work time of women, the presence of a spouse is associated with an increase in the household work time of women, all else equal (Sharpe, 1986). However, the statistical significance of this association varies. The

association is statistically significant when employed women are considered as a group or when all women, employed and not employed, are considered as a group. But, the assocation is not statistically significant when women who are not employed outside the home are considered as a group (Sharpe, 1986).

Number of children The majority of studies in the literature either implicitly assume or explicitly state that the family consists of husband, wife, and children. For this reason, the variable "number of children", for all practical purposes, indicates the number of individuals in the household. In all studies, the relationship between the number of children and household work time is positive (see, for example, Warren, 1940; Walker & Woods, 1976; Gronau, 1980; Hafstrom & Schram, 1983).

Most studies treat the number of children as a linear variable. Using a nonlinear measure of the number of children, Sharpe (1986) found that the increase in household work time of the woman occurs at a decreasing rate and peaks about the time the fourth child is added to the family. This result is obtained for both employed women and women not employed outside the home (Sharpe, 1986).

Age of the youngest child In studies that have focused on families comprised of husband, wife and children, the relationship between the age of the youngest child and

the household work time of women is both negative and significant (Walker & Gauger, 1973; Walker & Woods, 1976; Nichols & Metzen, 1978; Gauger & Walker, 1980; Family Time Use: An Eleven-State Urban/Rural Comparison, 1981). Note that the age of the youngest child is best used as an explanatory variable when all family units in a given sample have at least one child. If this restriction is violated, a measurement problem arises. When a family does not have a child, it would be reasonable to consider coding the variable "age of the youngest child" as a zero to indicate that a child is not present in that family. However, this coding creates an ambiguous situation because it is also true that it is at the younger ages that the impact of age of the youngest child is greatest. Thus, the zero coding implies that a young child under the age of one year of age is present in the home. In effect, the zero is forced to represent two distinct events: absence of a child and presence of a very young (and very time-intensive) child.

Given this difficulty with respect to measurement, it may be best to exclude a measure of the age of the youngest child from analyses that include families without children at home. Further, there is some evidence that, in the context of multivariate analysis, the effects of young children on the employment time decisions of women pertain

more to number of children as opposed to the age of the children (Gramm, 1975). Given the interconnected nature of time allocation decisions for employment versus work within the home (Gronau, 1977) it is reasonable to expect that the same result would be true for household work time as well.

Health of the woman Few studies considered the impact of a woman's health on her household work time. Those that did found that the poorer the health of the woman, the greater the amount of time that she devotes to household work (Hafstrom and Schram, 1983; Schram and Hafstrom, 1984). This result has interesting implications as it suggests that the woman with poorer health is attempting to achieve the same level of output that either she or her peers could achieve in a lesser amount of time in a healthy state.

Health of others in the household The presence of poor health in a spouse or child can have an influence on the household work time of the woman in the home. To the extent that the woman must devote time to the personal care of others in the household, her time in household work declines (Walker & Woods, 1976; Deacon & Firebaugh, 1988).

Attitudes regarding roles The attitudes that prevail in the household as to who has final responsibility for household work affect the amount of household work that women perform (Geerken & Grove, 1983; Pleck, 1985). The

strength of the relationship between sex-role attitudes and actual performance of household tasks has varied from study to study. Some researchers have found the relationship to be quite strong (for example, Hoffman, 1960; Pleck, 1985). Others found the relationship to be weak (for example, Geerken & Grove, 1983). Overall, however, the literature suggests that when a woman thinks that household work is her responsibility and her husband and/or her children concur, she does not attempt to enlist their help in reducing her work load in the home, whether she is employed outside the home or not. Further, even though a woman believes that the household work is not entirely her responsibility, when her husband and/or children do not concur, it is difficult for her to enlist their aid.

Socioeconomic characteristics

Education of the woman Nichols and Metzen (1978) report a negative and statistically significant relationship between the education of a woman and her household work time. The relationship of education to household work time may be direct or indirect. Higher education gives a woman more "mental resources" -- an increased ability to analyze problems that may arise and to think about and to decide on more productive uses of her time in the household. In this way, higher education leads directly to higher efficiency or

to more selective uses of time in household production. But higher education is also rewarded in the market sector. To the extent that a woman has a higher education, she is able to command a higher wage when working outside the home. A high wage serves as an inducement to her to increase market work time. Since a fixed amount of time is available each day, she must, as a result, reduce her work time in the household. This relationship among education, employment time, and household work time is the indirect effect of education on the household work time of a woman.

Employment status of the woman Although the equality of distribution of many resources may be debated, without question, each individual is alloted 24 hours a day. To the extent that employment activity is performed at a location that is separate from the home, an increase in the amount of time devoted to employment is, of necessity, a decrease in the amount of time available for household work and leisure activity. Thus, it is not surprising to discover that, when a woman is employed outside the home, the amount of time that she devotes to household work declines (Walker, 1969; Hall & Schroeder, 1970; Walker & Woods, 1976; Robinson, 1977; Nichols & Metzen, 1978).

Level of family income The level of total family income, in general, has been found to have a negative effect

on the household work time of women (Hafstrom & Schram, 1983; Nichols & Metzen, 1978). Some exceptions to this finding do exist. Manning (1968) did not find family income to be related to time allocated to meal preparation. Schram and Hafstrom (1984) found family income before taxes to be positively related to household work time of women. This relationship was significant at the one percent level (Schram & Hafstrom, 1984). This result was opposite that expected, but no explanation for the reversal of the expected result was offered.

It has been suggested that the level of family income has a negative relationship with household work time of women because the woman is able to purchase market substitutes for her labor in the home. There has been some support for this point of view. For example, purchase of meals outside the home, whether measured by the number of meals or by the number of minutes per week the wife eats out or by the number of minutes per week the husband eats out, has been found to be associated with a reduction in the household work time of women (Hafstrom & Schram, 1983; Schram & Hafstrom, 1984). It has also been found that, in addition to the actual level of family money income, the perception of the wife as to the adequacy of the family financial resources is negatively associated with the household work time of the woman (Schram & Hafstrom, 1986).

Perhaps when the woman perceives the family financial resources as inadequate, she increases the amount of time that she devotes to household production, making meals from scratch rather than purchasing more expensive prepared foods as a means of "stretching the budget".

Characteristics of housing

Presence of household durables Hall and Schroeder (1970) examined the effect that household durables have on the amount of time that the woman in the home would devote to household work. The set of household durables considered consisted of dishwashers, vacuum cleaners, automatic washers, clothes dryers, and garbage disposals. In their sample, 56% of the households owned dishwashers, 98% owned vacuum cleaners, 95% owned automatic washers, 90% owned clothes dryers, 27% owned garbage dispoals. Of these items, only ownership of a dishwasher has a significant influence on household work time. In homes where a dishwasher is present, "homemakers" spend, on average, 4.9 hours per week on dishwashing. In homes that did not have an automatic dishwasher, the woman in the home devotes, on average, 6.3 hours per week to washing dishes (Hall & Schroeder, 1970). Note, however, that, of the household durables measured, virtually all homes had a vacuum cleaner, automatic washer,

and clothes dryer. Variance in ownership was only present for dishwashers and garbage disposals.

Housing size The effect of housing size on the household work time of women has been mixed. Hall and Schroeder (1970) found that a woman's household work time was positively associated with the square footage of space in the home. Hafstrom and Schram (1983) found a positive relationship between a woman's household work time and the number of stories in the home. Both of the effects mentioned were found to be statistically significant. In contrast, Nichols and Metzen (1978) found that the number of rooms in the dwelling and the value of the dwelling do not significantly influence women's household work time. Walker and Woods (1976) suggest that the positive relationship between household size and household work time actually reflects the fact that larger families typically live in larger homes. They further suggest that it is family size and not housing size, per se, that influences household work time.

Factors Affecting Satisfaction with Task Performance

A limited number of studies pertaining to satisfaction with household task performance were located. None of these studies specifically examined the relationship between time

devoted to a given task and reported satisfaction with that task.

Campbell, Converse, and Rodgers (1975) undertook a very large national study of the quality of American life. As a part of that study, they make it clear that satisfaction is "a judgmental or cognitive experience" (Campbell, Converse & Rodgers, 1975, p. 8). They state that

> [level] of satisfaction can be precisely defined as the perceived discrepancy between aspiration and achievement, ranging from the perception of fulfillment to that of deprivation (Campbell, Converse & Rodgers, 1975, p. 8)

This definition of the term, "satisfaction," has been used in much of the empirical work that has been done regarding the relationship between satisfaction and other areas of life.

Campbell, Converse, and Rodgers (1975) suggest that overall life satisfaction is comprised of the level of satisfaction a person associates with smaller, more specific areas or "domains" of life. One of the domains of life that they studied was work in the home. They found that, for women, the level of satisfaction with housework is negatively associated with the level of education and with the level of employment time. Older women are more satisfied with housework. Neither the number and size of the rooms which the woman cleaned, nor whether the dwelling is rented or owner-occupied appear to influence the level of

satisfaction with housework for the women included in their study.

Burr (1979) noted a generally positive relationship between task performance and marital satisfaction for both men and women over the family life cycle. However, his measure of task performance is not explicit. Apparently, the study participants were allowed to define the term, "household tasks," for themselves.

Newton (1979) used measures of satisfaction in an attempt to find empirical support for the conceptual framework of managerial behavior proposed by Deacon and Firebaugh (1975). Specifically, Newton examined the relationship between reported managerial behavior and satisfaction with the outcome of managerial behavior. Scales were developed for each of these variables. The scale for managerial behavior was formed from survey participants' reponses to how like or unlike their own behavior was to ten statements that described actions associated with planning and accomplishing that which was planned. For the scale associated with satisfaction with managerial behavior, survey participants' responses to five questions about satisfaction with their family's management of time, work and money were weighted by importance of the item and summed. Newton found a positive and statistically

significant relationship between reported managerial behavior and satisfaction with the outcome of managerial behavior.

Heck and Douthitt (1982) developed a theoretical research model as a preliminary step to empirical testing of the conceptual framework proposed by Deacon and Firebaugh (1981). In this theoretical research model, output consisting of met demands and/or used resources is a function of inputs into the family managerial subsystem and of managerial activities engaged in by the family. The inputs are goals that are based on family values and are assumed to be given. The model may be represented as:

$$Q = q[X_i ; r_1 (V_{t,b}), r_j]$$

$i = (1...n)$ $\quad t = (1...s)$

$j = (2...m)$ $\quad b = (1...k)$

where

Q = outputs

X_i = managerial elements

r_1 = a goal as an input

r_j = the fixed input levels

$V_{t,b}$ = characteristics (1...k) of the t^{th} family member of s relevant members.

Heck (1983) tested this empirical model using the data for husbands and wives with and without children from the survey of Time Use in Economic and Social Accounts, 1975-1976. Only the first wave of data collection was used. Satisfaction with the outcome of eleven various household tasks was chosen as the empirical measure of output. Eleven equations were examined, one for each task. For each of the eleven satisfaction ratings, a dichotomous dependent variable was created. The dependent variable was set equal to one if a survey respondent indicated satisfaction to any degree and set equal to zero if the response indicated dissatisfaction to any degree. Probit analysis was used to estimate the conditional probability that a given individual would be satisfied with a specific output controlling for the presence of the independent variables in the model.

Note that the use of probit analysis implies the dependent variable, satisfaction with a given household task, may be divided into two parts: satisfied and dissatisfied. There is a difficulty in this approach. Dividing satisfaction into two parts forces the measure of satisfaction to have a zero point. Above that zero point are those who report that they are satisfied and below that point are those who report that they are not satisfied. If the distribution of satisfaction approximats a normal

distribution, this division would not cause any difficulties. But measures of satisfaction tend to cluster near the "satisfied" end of the scale (Andrews & Withey, 1976), a reasonable result. Dissatisfaction is uncomfortable; a person who is dissatisfied is motivated to make whatever changes are necessary and possible to become satisfied. Thus, given a two-unit measure of satisfaction, a larger proportion of any given sample of individuals will be classified as satisfied than as dissatisfied.

Meal preparation and house cleaning were among the tasks that were examined. Heck found that satisfaction with the output of meal preparation is positively associated with education of the wife, home ownership, and planning behavior. The total number of capital goods is negatively associated with satisfaction with the output of meal preparation. Capital goods included dishwasher, washing machine, clothes dryer, freezer, microwave oven, calaculator, color television, black and white television. Note, however, that each of the items included in the set of capital goods might have a different impact on satisfaction with the output of meal preparation if considered individually. For example, it is difficult to imagine how owning a washing machine, clothes dryer, calculator or television might influence satisfaction with the output of meal preparation. Owning a microwave oven might be

associated with an increase in satisfaction with the output of meal preparation, if the person preparing the meal liked the results of microwave cooking. If the person preparing the meal did not like the results of microwave cooking, then owning a microwave oven might be associated with a decrease in satisfaction with the output of meal preparation when the oven was used in the process of preparing the meal.

Satisfaction with cleanliness of the home is positively associated with planning behavior and egalitarian decision-making in the area of family planning. This latter result is rather interesting. Perhaps having egalitarian decision-making in the area of family planning contributes to a sense of shared responsibility between husband and wife. And, perhaps that sense of shared responsibility carries over to other areas of family life and further contributes to a sense of satisfaction with those other areas as well. Total earned family income and the total number of capital goods is negatively associated with satisfaction with cleanliness of the home.

Heck concludes that the results of the empirical research, taken as a whole, give support to the theoretical model proposed by Heck and Douthitt (1982) and to the conceptual framework of managerial behavior proposed by

Deacon and Firebaugh (1981), which provided a basis for that theoretical model.

Summary of Literature Review

The factors found to be associated with the level of time devoted to household work in general and to meal preparation, meal cleanup, and house cleaning in particular may be classified as family-related variables, socioeconomic variables and characteristics of housing. The family-related variables of interest are the age of the woman, marital status of the woman, the number of children in the home, the health of the woman, and the attitudes of the woman regarding roles. The socioeconomic variables of interest are the educational level of the woman, the employment status of the woman, and the level of family income before taxes. The presence of household durable goods and the space within the dwelling are the relevant characteristics of housing.

The level and the change in the level of satisfaction associated with specific household tasks would appear to be associated with the set of family-related variables and socioeconomic variables. A significant relationship between the characteristics of housing and the level of satisfaction that women report for household work has not been demonstrated to date.

There are no studies that explicitly link the time devoted to a particular household task and the satisfaction associated with the output of that task. However, that linkage may be deduced from the existing literature.

Campbell, Converse, and Rodgers (1975) make clear the fact that overall life satisfaction is comprised of the subjective experience of satisfaction in each of several domains of life. Deacon and Firebaugh (1988) focus on one of those domains of life: managerial activity within the home. According to Deacon and Firebaugh (1988), satisfaction is a subjective measure of goal attainment, an outcome of the managerial process. Preparing for a meal and cleaning up after it and cleaning the house may be considered as goals. And, clearly, time is a necessary input to the managerial process used to achieve those goals. Therefore, if inputs into the managerial process are, in fact, related to the outputs from that managerial process, then it is expected that a relationship exists between the time devoted to a given activity and the level of satisfaction reported to be associated with that activity. The proceedures followed to test this expected relationship are described in Chapter 4. The results of the empirical analysis pertaining to meal preparation and cleanup are discussed in Chapter 5. In Chapter 6, the results of the empirical analysis relevant to house cleaning are discussed.

These findings are summarized and future research directions are suggested in Chapter 7.

CHAPTER 4: PROCEDURES

In this chapter, the data used for this analysis are described. Then, two models, similar in structure but slightly different in focus, are delineated and the variables necessary to test the models empirically are operationalized. The method of analysis is then described.

Description of Data

The data for the empirical work in this study were obtained from the 1975-1981 Time Use Longitudinal Panel Study. Eight waves of data were collected, four in 1975-1976 and four in 1980-1981.

The goal of the panel study was to provide an accurate estimate of yearly productive time use in American households. Panel participants were residents of 37 states in the coterminous United States and the District of Columbia. Participants in the 1975-1976 portion of the panel study were randomly selected to form a representative sample of American adults over age 18 living in the coterminous United States. Data were collected from heads of households and spouses of household heads. Participants in the 1980-1981 portion of the panel study were those from whom three or four waves of data had been collected in the 1975-1976 study, and who were either heads of household or spouses of household heads in 1975.

The number of panel participants decreased over time. The 1975 wave began with 1519 respondents and 887 spouses. The 1981 wave began with 620 respondents and 376 spouses. Because it was not possible to control which respondents and spouses dropped out of the study and which respondents and spouses remained in the study, the 1981 data cannot be considered as representative of the population as the 1975 data. Weights are used to adjust for the loss and to "correct for differential non-response due to age of respondent, sex of respondent, degree of urbanization, educational attainment, and various other respondent characteristics" (Time Use, Users' Guide, 1983, p. 25). However, "because of the sampling constraints used, the sample is not representative of U.S. adults and should not be used as such even with the weights" (Time Use, Users' Guide, 1983, p. 25).

The survey design was virtually identical in the initial wave in 1975 and in the follow-up in 1981. Four interviews were conducted over the period of a year in 1975-1976 and again in 1980-1981. Personal interviews and telephone interviews were used to obtain data. Personal interviews were used for the the initial contact with the survey participants in 1975 and for the first of the four follow-up interviews in 1980. All other interviews were conducted by telephone.

The spacing of interviews over a period of a year accomplished two ends. First, seasonal differences in time use were captured as each interview took place during a different season of the year. Second, differences in time use due to day of the week were captured as interviewers gathered information regarding the way participants spent at least one weekday, a Saturday and a Sunday.

At every wave of data collection, panel participants were asked to recall the way they had spent each of the previous 24 hours. In addition to recalling time use, panel participants were asked questions regarding their health, employment history, earned family income, unearned family income, stock of household capital, and physical characteristics of their housing.

At the conclusion of the four waves of data collection in 1975-1976, information on time use was weighted and compiled to form a synthetic week for each panel participant who had given time diary information at least three times during the year. This proceedure was again repeated at the conclusion of the follow-up study in 1980-1981. Each synthetic week, in essence, was a time budget that delineated the number of minutes per week spent in over two hundred mutually exclusive activities.

Note, to facilitate subsequent references to each portion of the data collection, a reference to data

collected in 1975 is to be understood to pertain to the first four waves of data collection which took place from 1975 to 1976. Similarly, a reference to data collected in 1981 is to be understood to pertain to the latter four waves of data collection which took place from 1980 to 1981.

Clearly, the 1975-1981 Time Use Longitudinal Panel Study contains an extensive amount of information. Not all of the information available in the complete Time Use study was relevant to this research. Therefore, it was desirable to construct a single raw data file which contained only the data pertinent to this study. The procedure followed to construct this single raw data file is described in detail in Appendix A.

The raw data file that resulted from this construction process consisted of 559 records. Records that did not include adequate data on the time use of the women in the sample or on the level of reported satisfaction with the output of selected household activities were then deleted. It was thought that these were crucial variables and should not be estimated. Further, a few records were excluded that did not pertain to either household heads or spouses of household heads. The selection criteria brought the sample size down to 360. The final sample consisted of the records of both single and married women. For the women who were

married, selected information regarding their husbands was added to the record.

Description of Empirical Models

Two models are considered. The models have similar structure but a different focus. One model pertains to the amount of time and degree of satisfaction associated with meal preparation and cleanup activities. The amount of time and degree of satisfaction associated with house cleaning activities are the focus of the second model.

Recall the hypotheses illustrated by the conceptual model in Figure 1:

(1) The amount of time that a woman devotes to a given household task is influenced and constrained by certain demographic, economic, social, and technological, and psychological factors that pertain to that woman.

(2) The amount of time that she devotes to a given task, in turn, has an influence on her level of satisfaction with the output of that task.

(3) Over time, her initial level of satisfaction with the output of the task and any changes in demographic, economic, social, technological, and psychological factors are associated with a change in the amount of time that she devotes to the given household task.

(4) A change in the amount of time that she devotes to the task, in turn, is associated with a change in her level of satisfaction with the output of the task.

These hypotheses may be restated in the form of an empirical model. In brief and general form, that model is:

$$T_i = f(F_i) \quad (1)$$

$$S_i = f(T_i, F_i) \quad (2)$$

$$\text{Change in } T_i = f(T_i, F_i, \text{Change in } F_i) \quad (3)$$

$$\text{Change in } S_i = f(T_i, \text{Change in } T_i, F_i, \text{Change in } F_i) \quad (4)$$

where:

T_i is the amount of time that a woman devotes to household task i per week

S_i is the degree of satisfaction associated with performance of household task i reported by the woman

F_i is the set of factors expected to influence or constrain the amount of time that a woman devotes to household task i per week

and

$i = 1, 2$

where: 1 is associated with meal preparation and cleanup activities and

2 is associated with house cleaning activities

Equations (1) and (2) are to be measured in terms of the level of the variables in 1975. The portions of equations (3) and (4) that pertain to change are to be measured in terms of the difference in the level of the variables between 1975 and 1981.

Two groups of women are of interest to this study. One group contains all of the women in the sample, both single and married. There are 360 individuals in this group. The second group is a subset of the first group and contains the 250 women who were married both in 1975 and in 1981. The distinction between these groups was made to permit use of selected time use data on husbands.

To facilitate subsequent discussion which references these two groups of women, the term "entire group" is to be understood to indicate the group of 360 women who are either single in 1975 and in 1981, or single in 1975 and married in 1981, or married in 1975 and married in 1981. The term "married group" pertains to the 250 women who report being married in 1975 and in 1981.

Some Preliminary Considerations

Prior to the discussion of the variables and the method of analysis, recognition of some of the characteristics of the models and data used in this research will facilitate the discussion of the variables and the method of analysis.

First, regardless of the household task considered, empirical testing of the conceptual model requires that two measures of any given variable be obtained: (1) the level of the variable in 1975, and (2) the change in the level of the same variable between 1975 and 1981. With the exception

of the change in marital status and the change in family income between 1975 and 1981, the change in the level of any given variable in this study is calculated as the simple arithmetic difference between the level of the variable in 1975 and the level of the variable in 1981.

Note that, as an alternative to measuring the change in the level of a given variable between 1975 and 1981, a measure of the level of the variable in 1981 could be used. From a mathematical standpoint, it does not matter whether one uses the change in the variable between 1975 and 1981 or the level of the variable in 1981 as a contrast to the level of the variable in 1975. From a theoretical standpoint, the use of the measure of change seemed somewhat easier to describe and understand than did the use of two measures of the level of a given variable.

Second, for the variables of interest to this research, the questions in the 1981 data collection replicated the questions in the 1975 data collection. This fact greatly facilitated direct comparison of responses over the years.

Third, all measures of time devoted to an activity were based on the time diary information reported for the synthetic week. Recall that the synthetic week was compiled by the original data collectors from the time diary information that survey respondents had given for one or two weekdays and one weekend. The measure of time is the number

of minutes per week. So, for example, the amount of time that a woman in the survey devoted to paid employment would be measured by the number of minutes devoted to paid employment per (synthetic) week.

Description of the Dependent Variables

In this research there are eight variables that serve as dependent variables. These variables are the level of and the change in the amount of time that women devote to meal preparation and cleanup and to house cleaning, and the level of and the change in the satisfaction reported for the output of those tasks. The means, medians, and standard deviations for the dependent variables are reported in Table 1 for the entire group of women and in Table 2 for the subset of women who were married in 1975 and in 1981. These and all other tables have been placed in Appendix B.

Time devoted to meal preparation and cleanup

There are several activities that could be considered to be a part of meal preparation. Consider, for example, preparation of a simple breakfast of bacon, eggs, and orange juice for one's own consumption. First, it would be necessary to have obtained the necessary raw materials. To maintain simplicity in this example, assume the bacon, eggs, and orange juice had been purchased at the local grocery store the evening before and had been stored in the

refrigerator overnight. A case could be made for including in the time for meal preparation the time required for shopping, unloading the car after shopping, and putting the groceries away, since all of these activities are necessary prerequisites to the meal itself.

A second step in the meal related activity would be the transformation of the raw materials into a form that is necessary and/or desirable for consumption, that is, cooking the bacon and eggs, placing them on a plate and pouring the orange juice in a glass, perhaps with some ice. Thus, time involved in cooking and serving the food is involved in the total process of preparing the meal.

After the meal, the dishes must be cleared from the table, washed, and put away. This cleanup time could be considered as a third step in the process of providing the meal. Considering all of the steps involved in the prepartion of this simple meal, the time devoted to meal-related activity would be the summation of time devoted to putting groceries away, cooking, setting the table, serving food, clearing the table, and washing the dishes.

In this study, the amount of time that women devoted to meal prepartion in 1975 was calculated as the sum of two components of the 1975 synthetic week: meal preparation and meal cleanup. An exact description of the actions included in either meal preparation or meal cleanup was not provided

by the original data collectors in the documentation for the 1975 data collection. However, in the documentation provided for the 1981 data collection, the components of meal preparation and cleanup were carefully delineated and clearly described. In 1981, these synthetic week components were summed to obtain the measure of the amount of time that women devoted to meal preparation and cleanup:

> meal preparation: cooking, fixing lunches
>
> serving food, setting table, putting groceries away, unloading car after grocery shopping
>
> doing dishes, rinsing dishes, loading dishwasher
>
> meal cleanup, clearing table, unloading dishwasher (Time Use, User's Guide, 1983, p. 23)

It might be argued that "putting groceries away" and "unloading car after grocery shopping" are not a part of meal preparation. However, the documentation for the 1981 data collection indicates that these activities were a subset of the activities categorized as "meal preparation" in 1975. Therefore, for the sake of consistent measurement, the activites were retained. Further, as mentioned in a previous section, a counter argument could be made that food must be brought into the home before a meal can be prepared and, thus, that unloading the car and putting groceries away could be classified as a meal preparation activity.

In 1975, on average, women in the entire group devoted 593.40 minutes per week to meal preparation and cleanup

activity. The median time is 563.00 and the standard deviation is 303.26.

The subset of married women, on average, devoted almost an hour more per day to the same activity. The mean for the married group in 1975 is 641.30 minutes per week. The median time is 647.50 and the standard deviation is 289.75.

By 1981, the entire group of women, on average, were devoting more time to meal preparation: 601.62 minutes per week. The median and the standard deviation are 563.00 and 347.55, respectively.

An increase in meal preparation and cleanup time is also found for the subset of married women in 1981. For this group, the mean time is 654.95 minutes per week with a median time of 640.50 minutes per week and a standard deviation of 326.82.

Time devoted to household cleaning

Both in 1975 and 1981, the time that women devoted to household cleaning in the respective synthetic weeks was reported in a single category. In 1975, female house cleaning time was set equal to the time recorded in the category entitled "indoor cleaning". In 1981, the activities pertaining to "indoor cleaning" were described as:

> routine indoor cleaning and chores, picking up, dusting, making beds, washing windows, vacuuming, 'cleaning,' 'fall/spring cleaning,' 'housework' (Time Use, Users' Guide, 1983, p. 23)

In 1975, the entire group of women average 310.03 minutes per week in household cleaning. The median amount of time is 245.50 minutes per week with a standard devitation of 251.67. The group of married women averaged 343.43 minutes per week in the same activity. The median amount of time for this group is 284.00 and the standard deviation is 252.25.

In 1981, the entire group of women averaged 252.12 minutes per week in household cleaning. The median amount of time and the standard deviation is 210.00 and 230.18, respectively. For the married women, the mean number of minutes per week devoted to housecleaning is 271.45. The median is 225.00 minutes per week. The standard deviation is 196.10.

Comparing the means for the entire group of women, it is clear that by 1981, the average amount of time that women devoted to meal preparation and cleanup had increased. However, over the same period of time, the average amount of time that women allocated to house cleaning decreased. Similar results are noted for the group of married women.

Satisfaction with meal preparation and cleanup

Survey participants were asked to rate how satisfied or dissatisfied they were with "How good the main meal of the day usually is" on a 10 point satisfaction scale. On this scale, a score of 10 indicates complete satisfaction with "things as they are" and a score of 1 indicates complete dissatisfaction.

The average level of satisfaction reported in 1975 for the group of all women in the sample is 8.16. The modal score for this group is 8.00 with a standard deviation of 1.84. For the group of married women very similar results are obtained. For this group, the mean, mode and standard deviation are 8.19, 8.00 and 1.61, respectively.

By 1981, the level of satisfaction reported by the entire group of women showed a slight decline to a mean of 7.63. The modal score, however, remained at 8.00. The standard deviation was 1.91.

A similar pattern is noted for the subset of married women in 1981. For this group, the mean score is 7.50, a small decline compared to 1975 statistics. The modal score remaines at 8.00. The standard deviation is 1.69.

Satisfaction with household cleaning

The measure of satisfaction with household cleaning is of the same form as the measure of satisfaction with meal

preparation. The level of satisfaction with household cleaning in both 1975 and 1981 was measured by the survey participant's rating of how satisfied or dissatisfied she was regarding "How clean your house usually is" on the 10 point satisfaction scale. Recall that 1 indicates completely dissatisfied and 10 indicates completely satisfied.

In 1975, the mean score for the entire group of women is 6.99. The modal score is 8.00 and the standard deviation is 2.43. For the group of married women, the mean score is 8.19, the modal score is 8.00 and the standard deviation is 1.61.

In 1981, the average score for the entire group of women is 6.84, a very slight decline compared to 1975 statistics. The modal score is still 8.00, and the standard deviation is 2.16. For the group of married women, the mean, mode, and standard deviation are 6.72, 8.00 and 2.12. For this group as well, a decline in the average score is noted, however, the modal score remains unaffected.

Description of the Independent Variables

The independent variables are those variables that are expected to exert an influence on the amount of time that women devote to selected household tasks. Descriptive statistics pertaining to the variables discussed in this

section are given in Table 1 for the entire group of women and in Table 2 for the subgroup of women married in 1975 and in 1981. The factors that have been identified as having an effect on the amount of time that women devote to household task performance may be broadly classified as factors that:

(1) suggest a predisposition for household tasks,

(2) affect the time available to perform household tasks,

(3) indicate the potential a woman has to substitute the labor of others in the household for her own labor in the household,

(4) affect the need for the performance of household tasks,

(5) permit the substitution of market goods for her own labor in the household,

(6) reveal the level of human capital present in the household,

(7) reveal the level of monetary and material capital in the household, and

(8) indicate the ideas and attitudes that a woman has toward given household tasks and toward the division of labor in the household.

Note that this classification of the factors which affect the time that women allocate to meal preparation and cleanup and to household cleaning is not the only classification that could be used. Rather, it is simply a useful scheme for organizing and describing the independent variables in this analysis.

Predisposition for household tasks

It is probable that older women were reared at a time when the idea was prevalent that all work in the household was the main, if not the sole, responsibility of women. It is also probable that, at the time these older women learned how to perform household tasks, the standards pertaining to those tasks were normative, prescribed, and set at a relatively high level. Therefore, given this view of "women's work," it is expected that the older women in the sample would devote more time to household work than the younger ones, all else equal.

Also, recall that Campbell, Converse, and Rodgers (1975) found that older women report a greater degree of satisfaction with household work than do their younger counterparts. In this study, it is hypothesized that the amount of time devoted to a specific household task is associated with the satisfaction reported for the output of that task by the one actually doing the task.

Given a woman does have a predisposition for household work, it is reasonable to expect that she would devote more time to household work in general than would her younger counterpart. In this study, when the time allocated to a given household task or the change in such time is the dependent variable of interest, the age of the woman is used to indicate a predisposition for household work. When the

level of or the change in standards associated with the output of household task performance is the dependent variable of interest, the time that women devote to meal preparation and cleanup and to house cleaning also serve to indicate a predisposition for household work. These measures of time have already been described in a previous section.

The age of the woman is measured as her report of her age measured in years. The ages range from 19 to 82 years in the 1975 data. The mean age is 42.82, the median age is 38.00 and the standard deviation is 17.33 for the entire group of women. For the subset of married women, in 1975, the mean age is 38.85, the median age is 35.00 and the standard deviation is 14.49.

The age of the woman in 1981 was calculated as her reported age in 1975 plus six as there were six years between the studies. This computed age is used to avoid difficulties that might arise because, due to birthdays occuring before or after the point in time at which the data were collected, some women reported ages greater than or less than six years over their age in 1975. Thus, the range for the age of women in 1981 was 25 to 88 years of age for the entire group of women and 25 to 79 for the group of married women. Note that a measure of the change in the age of the woman is excluded from the analysis. Since all women

in the sample have aged by the same amount, the "change" in age is, in fact, a constant.

Time available for household tasks

The time available for household work is constrained by other time allocation decisions. Since each day has but 24 hours, it is clear that a decision to do something that requires X amount of time will leave 24 - X hours to accomplish anything else in the same day. This constraint on the time available for household work is quite substantial when a woman chooses to work outside the home. If she works full time, she is then allocating a minimum of eight hours per day to outside employment. Travel time to and from work can increase that allocation by several minutes to several hours, depending on travel distance and traffic conditions. Thus, of necessity, an increase in the amount of time a woman devotes to employment is a decrease in the amount of time available for household work and for leisure activity.

For the entire group of women, the employment time (including commuting time) of the woman is considered the major factor that could influence time devoted to or satisfaction reported with meal preparation and cleanup and with household cleaning. The employment time of the woman

was computed from information regarding employment given in the synthetic week.

Information on employment was obtained from each of the four waves of data collection in 1975 and from each of the four waves of data collection in 1980. These procedures resulted in a large amount of data regarding employment, including the amount of time an individual was unemployed or laid off. During the data collection year, changes in employment status could occur. For this reason, and because it was the amount of time devoted to employment and not the simple fact of employment that affects the amount of time a woman has available for household work, this variable is measured as the number of minutes allocated both to work and to traveling to and from work during the synthetic week. In 1975, the mean, median and standard deviation of this variable is 1190.65, 584.00, and 1122.80, respectively. In 1981, the mean is 1041.49. The median is 623.50. The standard deviation is 1105.54.

For the group of women who are married in 1975 and 1981, in addition to their own employment time, the employment time of their husbands is considered as well. The employment time of the husbands is measured as the number of minutes per week that the men themselves reported devoting to work and to travel to and from work. Thirty-three of the husbands did not keep time diary records. For

these men, the missing time data was set equal to the median employment time of those men who did report time diary inforation. The mean, median, and standard deviation of employment time for married women in 1975 is 1151.53, 416.5, and 1032.16, respectively. For their husbands in the same year, the mean, median, and standard deviation is 2099.70, 2469.00, and 1203.40, respectively.

In 1981, the mean employment time for married women is 958.29. The median time is 692.5 and the standard deviation is 999.08. For their husbands in the same year, mean employment time is 2101.28 minutes per week. The median time is 2249.00. The standard deviation is 1136.01.

Note that, for the married women, the mean is less than the median. This difference indicates that the distribution is skewed, with a few women clustered at the higher end of the scale and a large number clustered at the lower end of the scale. However, for the men, the mean is greater than the median. There are a few men who devote small amounts of time to employment time. The great majority of this group, however, are clustered at the higher end of the scale. The men in this group all devote relatively large amounts of time per week to employment.

Ability to substitute other household labor

The ability any given woman has for substituting other household labor for her own depends on two factors: the presence of others in the home and the participation of others in household work. Typically, in American households, the persons in the home besides the woman are a spouse and/or children.

The evidence from past empirical studies of household work time suggests that husbands would be more likely than children to engage in household work (see, for example, Walker & Woods, 1976). In this study, the presence of a spouse is indicated by the marital status of the woman when the entire group of women is considered. For the group of married women, the actual time that husbands contribute to meal preparation and cleanup and to household cleaning is used in place of marital status.

If time use data were available for children for 1975 and 1981, the actual contribution of children to household work could be measured. However, time use data for selected children in the family were only collected in 1981. Consequently, the time that children in the household contribute to meal preparation and cleanup and house cleaning could not be included in the analysis. This omission was regretable, as children can contribute to the performance of household work.

In the absence of a measure of this possible contribution, it was decided that the presence of children in the home could not be used as an indicator of the ability of the woman in the home to substitute for her own labor. This decision was further supported by evidence in past studies of household work time. These studies reveal that the presence of children is best associated with an increase in the time that women devote to household tasks (Manning, 1968; Walker & Woods, 1976).

Marital status of the woman All women in the survey indicated whether they were married, separated, divorced, widowed, or had never married. For analysis pertaining to the entire group of women, it is sufficient to know whether or not a spouse is present in the home. Therefore, for this group, a dummy variable was constructed to indicate marital status in 1975. The dummy variable was set equal to one if a woman indicated that she was married, and set equal to zero otherwise.

The change in marital status between 1975 and 1981 is one of the few change variables that was not calculated as the simple numerical difference of the variable level between the two years. Instead, four dummy variables were used to indicate the nature of the change.

With one exception, marital status was classified in 1981 as it was in 1975. The exception pertained to the

women who reported that they were married in both 1975 and 1981. For women in this situation, two groups were designated in the the original data. One group contained those women who had remained married to the same spouse between 1975 and 1981. The other group contained those women who reported being married in 1975 and in 1981, but were married to a different spouse in 1981 than they were in 1975. This latter group of women was relatively small. For the purposes of this study, it was sufficient to combine these two groups of married women into one group of married women, since the presence of a spouse is the focus of interest rather than the continuity of the marriage.

There are two potential ways that marital status could change over the six years between 1975 and 1981: single in 1975 and married in 1981, married in 1975 and single in 1981. In addition to these measures of change, a women might report that she was married in both years or that she was single in both years. A dichotomous variable was created for each of these four classifications. The variable was set equal to one if a woman met the classification criterion and set equal to zero if she did not.

It is not possible to use all four of the dummy variables described in regression analysis. For this reason, whenever a change in marital status is included in

an analysis, the dummy variable that represents those women who were married in both 1975 and 1981 is omitted. The choice of which category to omit is an arbitrary one. Any one of the four dummy variables could have been omitted. Further, when information regarding the change in marital status is included in an analysis, it is not necessary also to include an indicator of marital status in 1975. That information is contained in the dummy variables that indicate change. Therefore, in an analysis that includes the four dummy variables which represent change in marital status, the dummy variable that represents marital status in 1975 is also omitted from the analysis.

Household work time of husbands For the group of married women, the number of minutes per week that their husbands engaged in meal preparation and cleanup and house cleaning is considered in place of marital status.

On average, the husbands of the married women devoted about an hour per week to meal preparation and cleanup in 1975, 63.62 minutes per week. The median time is 17 minutes per week. The standard deviation is 106.36. In the same year, these men also cleaned the house about an hour per week, on average, 63.09 minutes per week. The median time is 0 and the standard deviation is 148.14.

In 1981, the mean, median, and standard deviation for meal preparation and cleanup time of the husbands of the

married women is 84.63, 51.00, 107.15, respectively. For house cleaning time, the mean is 25.52 minutes per week, the median is 0 and the standard deviation is 76.73. These figures suggest that men prefer tasks like cooking and stacking the dishwasher to tasks like dusting and vacuuming.

As mentioned in a previous section, there were thirty-three men who did not record any time diary data. For this group, meal preparation and cleanup time and house cleaning time was set equal to the median time for those men who did report time diary data.

Need for household work time

The presence of children in the household is used as an indication of the need for time to be allocated to meal preparation, meal cleanup and to housecleaning. The number of children in the home is measured as the number of persons age 17 or under living in the household. In 1975, the number of children in the home for the entire group of women ranges from 0 to 6. On average, there is one child per home for the entire group of women. The median number of children is 1 and the standard deviation is 1.41. For the group of married women the statistics are virtually identical. The mean, median and standard deviation are 1.23, 1.00, 1.45, respectively. The range of the data is the same.

In 1981, the average number of children under age 17 at home for the entire group of women is 1.09. For the married women, this average is 1.42. The median and standard deviation for the entire group of women is 0.50 and 1.48. The same statistics for the married group are 1.00 and 1.56, respectively. The range of the data for both groups of women in 1981 is 0 to 6.

Substitution of market goods and services

Market substitutes can be purchased for some household goods and services. The degree of substitutability varies according to the task and the degree of individual involvement necessary (Beutler & Owen, 1980). Of the two household activities of interest this study, meal preparation and cleanup has the greater range of substitutes available at various stages or levels of production of a final product: a meal ready for consumption. One may make a meal from raw ingredients, or one may purchase a frozen dinner, or one may eat out at a restaurant, for example.

In contrast, substitutes for house cleaning are not as numerous as those for meal preparation and cleanup. Also, while market substitutes for meal preparation and cleanup may involve either goods or services or some mix of both, market substitutes for house cleaning involve only the purchase of the services of another person. One cannot buy

a family room restored to order at the local market. Clearly, to the extent that substitutes are used either for meal preparation and cleanup or for house cleaning, the amount of time that the woman in the home must then spend on either of the activities is diminished.

Data limitations preclude very exact measures of the use of market substitutes for either household task. In fact, there are sufficient data for measuring only one market substitute for one household task. The task is meal preparation and cleanup and the market substitute is the number of meals the family eats in a restaurant per week.

The entire group of women report that they and their family members ate out, on average, 5.91 times per week in 1975. The median number of restaurant meals is 3 and the standard deviation is 5.87. By 1981, the mean number of restaurant meals eaten reported by this group had declined slightly to 4.04 per week. The median and standard deviation are 3 and 3.36, respectively.

For the group of married women and their families, the mean number of restaurant meals eaten is 6.63 in 1975 and 5.09 in 1981. The median and standard deviation in 1975 is 4 and 5.82, respectively. In 1981, the median is still 4 and the standard deviation is 3.20.

Human capital in the household

The human capital of the household is represented in this study by the educational level of the woman, her health, and the health of other family members. The educational level of the husband is also a major source of a family's human capital. However, to avoid problems in collinearity due to the high correlation between the educational level of a woman and the educational level of her husband, this variable is omitted from the analysis.

Education of the woman The education of the woman was measured as the "highest grade of school or year of college completed." Responses were coded 1 if a respondent had completed eighth grade, 2 if a respondent had completed eleventh grade, 3 if the respondent had earned a high school diploma, 4 if the respondent had completed either a two year associate degree or some college, and 5 if the respondent had earned a college degree or had education beyond the college degree. Missing data on this question was recoded to the median, 3, indicating a high school education.

The average level of education attained by women in both groups is a high school degree. The mean and the median level of education is close to 3 for women in both groups in 1975 and again in 1981. The standard deviation is relatively close to 1 for both groups of women at both points in time.

Health of the woman The health of the woman was indicated by the answer the woman gave to the question, "Compared to other people your age, would you say that your health is excellent, good, fair or poor?" Responses were coded on a four-point scale with four representing excellent and one representing poor.

For both groups of women in 1975 and in 1981, the mean and the median response indicated that the women are in good health. The standard deviation for both groups of women at each point in time is very similar and is less than 0.90.

Presence of poor health in husbands and/or children Women who were married and women who had children were asked to report whether the health of their spouse or child was excellent, good, fair, or poor compared to a peer reference group. As with the variable which indicates health of the woman in the home, responses were coded on a four-point scale with four representing excellect and one representing poor.

These responses were then recoded to a dichotomous variable such that one represented the presence of fair or poor health in a husband and/or a child, and zero represented all other cases.

The mean for this variable represents the proportion of the group for which a husband and/or a child has poor health. In 1975, 18% of the women in the entire group have

a family member with fair or poor health. For the group of married women, the percentage is somewhat higher at 22%. A small decline in this statistic is evident in 1981. Eleven percent of the entire group of women and 16% of the married group have a family member at home with fair or poor health in 1981.

Monetary and material capital

Household income Survey participants were asked to report the amount of job-related and nonjob-related income that would be received in the year the data were collected. Labor income was designated as money received from "wage and salaries on all jobs, including overtime and your own business or profession, before deductions" and from "bonuses and commissions." Nonjob-related income was categorized as: dividends or interest; farming or market gardening after substracting expenses; trust funds, royalties, or rental income; Social Security; pensions; welfare payments or Aid to Dependent Children; food stamps; state unemployment compensation; company or union unemployment benefits; Veteran's benefits, workman's compensation; help from relatives; alimony or child support; and anything else. Total family income was computed as the sum of money received from job-related and nonjob-related sources.

Several cases reported missing data on some or all of the components of the income computation. For these cases, the value of income was estimated. This estimation proceedure included several steps. In every case, an effort was made to use the data that were available on a given record so that as little as possible was estimated.

The estimation process proceeded in this manner. First, the job-related income received by the woman was computed as the sum of wage and salary income for 1975, bonus and commission income for 1975, and other job income for 1975. If any component of this summation was missing, the job-related income received by the woman was estimated by means of a regression equation. The regression equation was computed separately for women who were younger than 60 years of age and for women who were 60 years of age and older. It was thought that these groups would differ in terms of their job-related hours and the effect of children in the home, as most women do not have minor children in the home when they are 60 years of age and older. For the women who were less than 60 years of age, the estimation equation included the work time of the woman, her age, her health, and the number of minor children in the home as independent variables. The estimation equation for women who were 60 years of age and older contained the same independent variables, with the exception of the number of minor

children in the home. This variable was omitted.

A similar estimation procedure was followed if the woman was married and her husband did not report job-related income. In this instance, however, a distinction was not made regarding the age of the man. The estimation equation included his work time, his health, the number of minor children in the home, his education, and his age.

The income variable for either year was then calculated as the sum of her job-related income, his job-related income, other income, investment income, retirement income, and transfer income. If any of the nonjob-related income components of family income were missing, the median of the nonzero cases was used to replace the missing data.

In 1975, mean household income for the entire group of women, in 1975 dollars, is $16,887.40. Median dollar income is $14,306.50 with a standard deviation of $20,064.90. For the group of married women, the mean, median, and standard deviation are $21,087.90, $16,960, and $22,644.70, respectively.

Between 1975 and 1981, various economic factors affected the level of prices. Consequently, the dollar income that a family received in 1975 cannot be directly compared against the dollar income that same family received in 1981. To make the income figures for the two years comparable, information from the Consumer Price Index was

used to deflate the 1981 dollars to make them comparable to 1975 dollars.

After this adjustment is made, the mean, median, and standard deviation of household income for the entire group of women is $23,305.70, $21,592, and $36,051.10, respectively. Mean household income for the married group is $29,558.10. Median income is $25,242.00, with a standard deviation of $41,416.40.

There is a large difference in real income between 1975 and 1981, even after the effects of price changes between the two years has been removed. This difference may arise because the sample selected for study is unusual. In each group of women, about 5% of the group report a family income that is substantially higher than the income reported by the remaining 95% of the group. This difference is somewhat greater in 1981 than it is in 1975. The larger incomes received by this 5% contributes to a higher overall mean income for both groups in 1975 and in 1981. The relatively larger increase in income received by this 5% in 1981 could help explain the large difference in real mean dollar family income between 1975 and 1981.

The difference in the median dollar income may be attributed to life-cyle effects. Typically, income is positively correlated with age. Persons who receive a wage income often receive raises in that income as their level of

experience and responsibility on the job increase. Persons who invest their money may, over time, receive a return on that investment. Recall that the data used for this study were collected in 1975 and 1981 from the same group of people. As a consequence of this sample design, the group of persons under the age of 30 had, by 1981, diminished in size. Typically, persons in this age bracket receive relatively lower income than do persons who are older. The reduction of the size of this lower income group in 1981 coupled with the probability that many of those who were included in the sample had made gains in real income between 1975 and 1981, may expain the difference in median income between 1975 and 1981.

Housing characteristics

Housing size Extensive information on housing size and quality was obtained in the 1975 data collection. Unfortunately, little of that information was replicated in the 1980 data collection. Thus, detailed housing information was not available for persons who had moved in the five-year interval, and so that it was not possible to measure the size of the home directly.

In general, rented dwellings tend to have fewer rooms than owner-occupied dwellings and multifamily dwellings tend to have fewer rooms than single family dwellings (Morris &

Winter, 1978). Thus, in place of a direct measure of housing size, a variable which indicated both tenure status and type of dwelling was constructed. Ownership of a single family dwelling was measured by a dichotomous variable set equal to one if a single family dwelling is owned and equal to zero otherwise.

In 1975, 58% of the entire group of women live in an owner-occupied single family dwelling, while 70% of the married group of women do so. In 1981, the percentage for the entire group is 75% and for the married group, 92%. On the basis of these statistics, it is expected that, on average, the women in the married group would devote a greater proportion of their time to household work than would the women in the entire group.

Stock of household durables Survey respondents were asked to report on the stock of their household durables in both 1975 and 1981. The items listed on the 1975 questionnaire were more limited than the items listed on the 1980 questionnaire. Only those items that are relevent to meal preparation and cleanup, or to household cleaning and present on both questionnaires were considered. These items are: electric dishwasher, refrigerator, home freezer, microwave oven, garbage disposal, and vacuum cleaner. The items in the 1975 listing are coded such that the survey respondent is given a 0 if the item is not owned in 1975 and

a 1 if the item is owned. Change in item ownership is measured in a similar manner. If no change in ownership has occured, then the change was coded as 0. If an item has been acquired, the change is +1. If an item has been disposed of and no replacement has been secured, the change is -1.

Only one household durable, vacuum cleaner, could be directly associated with household cleaning. It is possible, however, that some of the household durables associated with meal preparation, such as dishwashers and garbage disposals, could have some impact on house cleaning time insofar as the use of each tends to reduce clutter and disorder within the home.

In 1975, virtually all of the women in the entire group own a refrigerator and a vacuum cleaner. Of the remaining household durables, 32% of the entire group of women own a dishwasher, 39% own a freezer, 5% own a microwave oven and 21% own a garbage disposal. The figures for the married group are very similar.

In 1981, proportion of ownership had not declined for any of the household durables. An increase in the ownership of dishwashers, microwave ovens, garbage disposals, and vacuum cleaners is noted for both groups of women. Among those items for which ownership increased, the increase in ownership was within 10 percentage points for all durables

except microwave ovens. For this durable, the proportion of ownership increased almost 20 percentage points.

At one point in the empirical analysis, ownership of the set of household durables was scaled to form a composite variable to indicate the level of technology in the household. However, this scaled variable did not perform well, either as a scale or as an entry in any of the regression analysis. Consequently, it was decided to retain the individual household durable good variables.

Attitudes regarding household work

Attitudes about roles Survey participants were asked several questions "concerning family life." The answers to these questions were combined to form a scale indicating the attitudes the woman has toward her role in the home. The questions are:

> Most of the important decisions in the life of the family should be made by the man of the house -- do you strongly agree, agree, disagree, or strongly disagree?
>
> There is some work that is men's and some that is women's, and they shouldn't be doing each others; do you strongly agree, agree, disagree, or strongly disagree?
>
> A non-working wife should NOT expect her husband to help around the house after he has come home from a hard day's work; do you strongly agree, agree, disagree, or strongly disagree?

Answers were coded on a scale from 1 to 5 where 1 indicated strongly agree; 2 indicated agree; 3 indicated don't know,

depends; 4 indicated disagree; and 5 indicated strongly disagree. Answers that tend toward the low end of the scale would suggest a more traditional view. Answers that tend toward the high end of the scale would suggest a more egalitarian view.

In 1975, the mean score on the sex role scale for the entire group of women is 9.12. The median score is 10 with a standard deviation of 2.72. The statistics are not very different for the married group. The mean score for the married women is 9.34. The median score is 10 and the standard deviation is 2.82.

In 1981, both groups of women report a slight increase in mean scores. For the entire group of women, the mean score is 10.11. For the married group, it is 10.09. The median score for both groups is still 10. The standard deviation is 2.58 for the entire group and 2.67 for the married group.

Neatness of the home The woman was asked to rate the importance of having her home "straightened up and neat all the time" on a three-point scale: very important, somewhat important, and not very important. A higher number is indicative of greater importance. It is recognized that a survey participant may see a difference between a home that is "straightened up and neat all the time" and one that is "clean." However, for the purposes in this study, it is

assumed that "straightened up and neat" is the equivalent of "clean."

It is hypothesized that, for those women for whom neatness of the home is very important, a large amount of time will be devoted to that activity and that this amount of time will not vary greatly, even in the face of other time pressures. Conversely, if a woman reports that a neat home is not very important, she will tend to spend less time on house cleaning and will allocate time to other activities.

The mean score for the entire group of women in 1975 is 2.46. The median score is 2 with a standard deviation of 0.62. The mean, median, and standard deviation for the married group is virtually identical to the figures for the entire group. These statistics remained practically unchanged for both groups in 1981.

Importance of a neat house compared to other activities

The women in the study were asked to state how important or unimportant it was to them to have a neat home compared to devoting time to an activity they enjoyed doing. Again, a three-point scale was used: very important, somewhat important, and not very important. Higher numbers are indicative of greater importance.

The mean, median, and standard deviation of this variable are virtually identical to the statistics reported

for importance of a neat home for both groups of women and for both years. It must be noted, however, that these two measures are not highly correlated. Therefore, although the descriptive statistics are similar, the measure of the importance of a neat house and the measure of the importance of a neat house compared to other activities are treated as measures of two separate attitudes.

Statistical Analysis of the Models

For the statistical analysis of each of the two models, the same analytical procedure was followed. Each step of this procedure will be described in turn.

As a part of the preliminary analysis of the data, frequencies of all of the variables in this study were calculated using the Statistical Package for the Social Sciences (SPSSX). Information from the calculation of frequencies was used to learn the range of each variable and to check for the amount and location of missing data.

The missing data were, in general, recoded to the median of the nonzero and nonmissing cases for each given variable. One exception to this procedure was the estimation of missing data on family income. Regression analysis was used to estimate missing income data. Once missing data were replaced by an estimate, frequency distributions for each variable were calculated once again

for each group: the entire group of women and the group of married women. The mean, median, and standard deviation of the variables used in the empirical analysis are reported in Table 1 and Table 2. Table 1 pertains to the entire group of women. Table 2 pertains to the group of married women.

Crosstabulation analysis was then used to become familiar with the zero-order relationships between all pairs of the variables, both dependent and independent. This crosstabulation analysis provided a basis for the multivariate regression analyses, as it revealed both direction and strength of relationship between variables. The Statistical Package for the Social Sciences was used to obtain the crosstabulation results.

There was some concern that multicollinearity might be present in the data. An analytical proceedure in the Statistical Analysis Systems PROC REG package, entitled COLLIN, was used to learn the degree of collinearity present among the set of variables (SAS User's Guide: Statistics, 1985, p. 672).

It was found that the age of the men was highly collinear with the age of the women in the sample. High collinearity was also found for the level of education for the men and women in the sample. Because this study has the factors affecting the time use of women in the home as a major focus, it was decided to omit the age and the

educational level of the husbands of the married women from further empirical analysis. No other variables were sufficiently collinear to warrant removal from further empirical analysis.

A correlation matrix of all the variables was then generated. These correlations are presented in Tables 3 and 4. Table 3 pertains to the entire group of women. Table 4 pertains to the group of married women.

Once the preliminary analysis was complete, regression analysis was used to ascertain which factors exerted the greater influence on the dependent variables in the two models. Each model consisted of eight equations, four pertaining to the entire group of women and four pertaining to the group of married women. That is, each model had as dependent variables, for each group of women:

(1) the amount of time that women devoted to a given household activity in 1975,

(2) the level of satisfaction the women reported associated with the given household activity in 1975,

(3) the change in the amount of time that women devoted to a given household activity between 1975 and 1981, and

(4) the change in the level of satisfaction the women reported associated with the given household activity between 1975 and 1981.

Two conflicting goals are faced in any empirical analysis. One may argue that the goal is to describe the

relationships among the variables in the model as fully and completely as possible. With this perspective in view, it would seem advantageous to include as many explanatory variables as possible in the analysis. In a sense, this is what has been accomplished in the full equations used in this study. The set of explanatory variables chosen for each full equation are those that a thorough review of extant literature suggests would exert at least some influence on the dependent variables of interest.

Yet a review of any of the full equations in this study will readily indicate that not all of the explanatory variables chosen are equally efficacious for the purpose of explaining the variance in a given dependent variable. Further, the practice of including as many variables as plausible and possible in a regression analysis can yield deceptive results. For example, if the R^2 statistic is used as a criterion for selecting the "best model," or the "best equation," the addition of each variable will, at worst, leave R^2 unchanged and, at best, increase the statistic. By virtue of the manner in which the R^2 statistic is calculated, it is not possible to observe a decrease in the statistic as variables are added to an equation. A selection of variables based on this statistic will, in general, be relatively large. But, again, not all of the variables added to the equation increase the explanatory

power of the equation with equal strength. An additional practical consideration is that the greater the number of explanatory variables, the greater the time and effort required for complete analysis.

Thus, a counter argument could be made that a model, or a regression equation, should only contain those explanatory variables that contribute significantly to explaining the variance in the dependent variable (Hanushek & Jackson, 1977). The point is a good one, but, to date, there is no one best way to reduce a model to its "best" constituent parts. Any statistical method used to reduce a given model cannot be used mechanically. Rather, a researcher must always temper the results of any given statistical method with seasoned judgment based on knowlege of the field in question.

Several methods for "finding a best equation" are available, but experts differ as to their usefulness. Draper and Smith (1981) outline several methods for developing a reduced, or parsimonious, model. One of the methods recommended is stepwise regression. Draper and Smith state, concerning stepwise regression, that they believe it is "one of the best of the variable selection procedures (that they have) discussed and recommend its use" (Draper & Smith, 1981, p. 310).

In stepwise regression, independent, or explanatory, variables are inserted into a regression equation one by one according to a specific criterion. The criterion used in this study was the partial F statistic. The F statistic is used to test the hypothesis that the coefficient of a given independent variable is significantly different from zero. The partial F statistic indicates the contribution a given variable would make to the equation if it were added to the equation last.

In general, for stepwise regression, the first variable added to the regression equation is the variable in the set of independent variables that has the largest partial F statistic. The statistical significance of this first variable is checked against a preselected level of significance. If the variable is not significant, no other variable is selected for the regression equation and the mean of the dependent variable is chosen as the best regression equation.

If the variable is statistically significant, it is retained in the equation. Then, the remaining independent variables are examined. The variable with the highest partial F statistic is considered for addition to the regression equation. If the partial F statistic associated with the variable exceeds a preselected F value for entry into the equation, the variable is added to the equation.

Once in the equation, the partial F value associated with each of the variables in the equation must exceed a preselected F value to remain in the equation. If the partial F statistic for each variable exceeds the preselected F value, both variables are retained in the regression equation. If the partial F statistic for either variable in the equation is below the preselected F value, the variable with the relatively low F value is rejected from the regression equation.

The addition and subtraction of variables continues until either all of the variables have been entered or until none of the variables remaining pass the criterion for entry into the model. To be included in a regression equation in this study, the partial F statistic associated with a given variable has to be greater than 0.15 for entry into the equation. Once in the equation, the partial F associated with each variable in the regression equation has to exceed 0.15 to remain in the equation.

The choice of 0.15 is somewhat arbitrary. Using 0.15 as a comparison factor accomplished two goals. First, it eliminated from further consideration those variables that did not contribute much to the equation of interest. This process of elimination narrowed down the number of variables to consider for inclusion in a reduced equation. Yet the 0.15 comparison factor allowed a sufficient number of

variables to be retained so that tendencies in other judgment factors such as the R^2 and the F statistic associated with the overall equation, and the partial R^2 associated with each variable could be noted and followed.

Stepwise regression is not free from criticism. Daniel and Wood (1980) point out that stepwise regression assumes that there is one best regression equation for a given dependent variable and set of independent variables and that the stepwise procedure will uncover that one equation. It is true that there are alternative measures for locating a best regression equation. However, these alternative measures can be difficult to use. For example, for a given set of independent variables, one could calculate all possible regression equations. But, such calculation quickly becomes a time-consuming chore. With just ten independent variables, one must look at over a thousand separate equations. As additional independent variables are considered, the number of regression equations that would need to be evaluated increases exponentially. Any selection criterion imposed to narrow down the number of equations to consider is, in the final analysis, equally as arbitrary as the criterion applied through stepwise regression.

Stepwise regression is not recommended when a high degree of collinearity is present among the independent

variables. However, in this analysis, the presence of collinearity was checked and not found to be a problem.

So, in an attempt to develop parsimonious regression equations, stepwise regression was performed for all of the equations in each model. Two major factors were considered in the final selection of the variables included in each reduced regression equation: the goodness of fit of the entire equation and the degree to which the variance in the dependent variable is explained by the set of independent variables selected.

Applying a strict criterion for variable inclusion, at a minimum the reduced equation had to exibit two features: the overall F for the regression equation had to be statistically significant and the partial F for each variable had to be statistically significant (at $p \leq 0.15$). These strict criteria have as their focus the goodness of fit of the overall regression equation.

However, application of the strict criteria without thought could lead to the exclusion of some variables that, while not as strong in effect as other variables, do contribute some improvement in the explanatory power of the regression equation. Relaxing the strict criteria would permit such variables to be included in the set of independent variables and improve the degree to which the variance in the dependent variable is explained. Relaxation

of the strict criteria is in harmony with a focus on understanding and explaining the variance in the dependent variable.

But, to what extent is the strict critera to be relaxed? In response to this question, Mallows C_p statistic was chosen as an additional guide for selecting the set of independent variables for each reduced equation. This statistic is a measure of the total squared error and is defined as:

$$C = \frac{SSE_p}{s^2} - (N - 2p)$$

where s^2 is the mean squared error for the full regression equation and SSE_p is the sum-of-squares error for a regression equation with p variables plus the intercept (SAS Users' Guide: Statistics, 1985, p. 765).

Mallows has demonstrated that the better equations in the sense of reducing bias in parameter estimates are found when the C_p statistic is approximately equal to the number of parameters (including the intercept) in the regression equation (Mallows, 1973). Given an interest in reducing the number of independent variables in an equation and a variety of reduced equations from which to choose, Mallows C_p statistic can indicate which equation or equations merit

further attention. An equation that is biased does not fit the data well and will have a C_p statistic that is greater than the number of parameters in the equation. Random variation may cause a C_p statistic to be less than the number of parameters in the equation. However, an equation in which Mallows C_p statistic is less than the number of parameters does not suffer from a lack of fit and the parameter estimates are not biased. Choice of a reduced equation is simple and straightforward when there is approximate equality between Mallows C_p for the equation and the number of parameters in the equation. In the absence of such equality, one must judge whether it is preferable select a biased equation that has a relatively lower total squared error or an equation exhibits less bias but a relatively larger total squared error (Draper & Smith, 1981).

Regarding the use of this C_p statistic, it is important to note that Mallows, himself, wrote that it "cannot be expected to provide a single best equation when the data are intrinsically inadequate to support such a strong inference" (Mallows, 1973). Draper and Smith (1981) further comment regarding the choice of a "best model" or "best equation," in general, that:

> [all] selection procedures are essentially methods for the orderly displaying and reviewing of data. Applied with common sense, they can produce useful results;

> applied thoughtlessly, and/or mechanically, they may be useless or even misleading (Draper & Smith, 1981, p. 300.)

Judgment of the set of independent variables to select for each reduced equation was also aided by review of the R^2 and partial R^2 statistics associated with both the full and the reduced equations. The R^2 statistic is a measure of the proportion of total variance around the mean of the dependent variable that is explained by the independent variables in the regression equation. As previously mentioned, the R^2 statistic will tend to increase as more variables are added to an equation. For this reason, the adjusted R^2 was also a factor considered in selection of the set of independent variables. Because the calculation for the adjusted R^2 takes the number of variables in an equation into account, the adjusted R^2 measure can be superior to the R^2 measure when judging the goodness of fit of a given equation. The partial R^2 statistic is a measure of the proprotion of total variance around the mean of the dependent variables that is explained by a given independent variable.

Thus, the selection of the set of independent variables for each reduced equation involved two major steps. First, the stepwise regression proceedure was used to generate several alternative reduced equations for each of the full equations in this study. Second, the results of the

stepwise regression proceedure were carefully evaluated. As a part of that evaluation process, the F, the R^2, and the adjusted R^2 obtained for a given reduced equation were compared against the same statistics obtained for the relevant full equation. Also, for a given reduced equation under consideration, Mallows C_p was compared against the number of parameters in the equation. For each parameter in a given reduced equation, the partial R^2 and the partial F statistics were examined.

Conclusion

In this chapter, the data, the empirical models, and the variables have been described. Differing points of view regarding the method of analysis were reviewed in brief and the methodology chosen for this study was discussed.

The results of the empirical analysis pertaining to meal preparation and cleanup are discussed in Chapter 5. Then, the empirical results relevant to house cleaning are discussed in Chapter 6.

CHAPTER 5: FINDINGS FOR MEAL PREPARATION AND CLEANUP

A total of sixteen regression equations was estimated for the model pertaining to meal preparation and cleanup. As outlined in a previous section, there are four dependent variables in this model. Further, the model is estimated for two groups of women, the entire group of women and the group of married women. For each dependent variable, both full and reduced equations were estimated for each group of women.

The results of the reduced equations are the major focus of interest in this chapter. As explained in the previous chapter, the decision of which independent variables to omit from further consideration and which to retain is a matter of judgment. Experts disagree as to which, if any, of the various methods proposed to reduce a given regression equation is "best" to use in the sense of giving consistent results.

In this study, stepwise regression has been chosen as a means of obtaining, for any given equation of interest, information about the contribution each independent variable makes toward explaining the variation in the dependent variable of interest. It is to be reemphasized that the reduced equations are not simply rote replications of the outcome of the stepwise regression. Rather, for each

reduced equation that was developed, other factors such as the F statistic for the entire equation, the R^2 for the entire equation, the partial F, and the partial R^2 for each variable added to the reduced equation, the Mallows C_p statistic and the variables significant at or below the 5% level in the full equation were considered.

The empirical results are organized into four separate sections. Each section pertains to one of the four dependent variables of interest in the model. Within each section, the similarities and differences found for each group of women are reviewed. Unless otherwise noted, all of the independent variables discussed are statistically significant at or below the 5% level.

Meal Preparation and Cleanup Time in 1975

The full equation for the level of meal preparation and cleanup time in 1975 for the entire group is reported in Table 5. The reduced equation for this same group is given in Table 6. Tables 7 and 8 are the full and reduced equations, respectively, for the married group.

From the reduced equations for each group of women, it is clear that the meal preparation and cleanup time of a woman is negatively related to employment time and positively related to the number of persons in the household. These results are expected. When a woman

decides to allocate time to work outside the home, less time is available to allocate to tasks such as meal preparation and cleanup. And, when a spouse is present and/or when there are a larger number of children in the home, the number of meals and/or the amount of food prepared for each meal also is greater. Note that for the married group, the variable indicating the presence or absence of a spouse was replaced by a measure of the time that husbands devote to meal preparation and cleanup and to household cleaning. It is interesting that, for this group, the level of meal preparation and cleanup time of the woman is negatively associated with the number of minutes per week that the husband devotes to meal preparation and cleanup. This result suggests that married women are able, to some extent, to substitute the labor of a spouse for their own labor for this household task.

There is also some evidence that, in both groups, women are able to substitute meals purchased in restaurants for their own labor in meal preparation and cleanup. The number of meals the woman and her family eat in a restaurant per week is negatively associated with the level of time that she devotes to meal preparation and cleanup. This negative association is also noted for level of income, again, for both groups of women. Higher income would permit greater substitution of more expensive market-prepared goods which,

in turn, would reduce the time the woman needed to spend in the kitchen.

The educational level of women in the entire group is negatively associated with the amount of time that these women devote to meal preparation and cleanup. Educational level is not a statistically significant factor, however, when married women are considered. Two explanations of this negative association may be offered. For a woman with a relatively higher level of education, the opportunity cost of working in the home is greater. Some women for whom this is true choose to be employed outside the home. Other women may prefer to devote time to such pursuits as volunteer work in the community. Because time devoted to volunteer work was not included as a control variable, it is possible that for women in this category, education reflects effects of this type. A second explanation may be that education encourages a person to evaluate situations and to seek to improve those situations. Perhaps a higher level of education provides women with tools that enable them to perform household tasks such as meal preparation and cleanup more efficiently, thus minimizing the amount of time devoted to the task.

The influence of ownership of certain household durables on a woman's meal preparation and cleanup time is mixed. Ownership of a dishwasher is associated with a

decrease in meal preparation and cleanup time for both groups of women. This relationship is as expected, since a task once done by hand is now being done by a machine. Women in either group who own a garbage disposal or a vacuum cleaner devote more time to meal preparation and cleanup time than those who do not. These results are somewhat puzzling. A garbage disposal is an appliance that, at most, is used only minutes a day. And, perhaps aside from vacuuming a carpeted kitchen floor as a part of meal cleanup, it is difficult to discern any connection between a vacuum cleaner and meal prepration and cleanup activity. No other household durable good proved to be statistically significant for either group of women.

For the group of married women, living in an owner-occupied single-family dwelling is positively associated with meal preparation and cleanup time. It is reasonable to think the positive association may be because larger families usually live in single-family dwellings. But, the presence of others in the family is controlled for either group of women. It may be speculated that single-family dwellings have a greater amount of kitchen space to clutter in the course of preparing meals. Also, the dining table may be located in a room that is separate from the kitchen. Either factor would tend to increase the time needed for

meal cleanup even after accounting for the number of persons in the home that are fed.

For the entire group of women, the number of parameters in the reduced equation is approximately equal to Mallows C_p statistic. Similarly, approximate equality between parameter number and Mallows C_p statistic is also found for the reduced equation pertaining to the married group. This near equality indicates that the parameter estimates in each reduced equation are relatively free from bias and that each reduced equation represents a relatively good fit.

Satisfaction with Goodness of the Main Meal of the Day

The full equations for meal preparation and cleanup are reported in Table 9 for the entire group and in Table 11 for the married group. Table 10 and Table 12 pertain to the reduced equations for the entire group and for the married group, respectively.

For this dependent variable, the reduced equations for either group of women did not share as many commonalities as had the reduced equations for the level of meal preparation and cleanup time. For that reason, the reduced equations for the level of satisfaction reported for goodness of the main meal of the day in 1975 are discussed separately for each group of women.

Prior to that discussion, however, it is recognized that there could be some argument that report of satisfaction with the goodness of the main meal of the day is not the best measure of the two productive activities associated with meals: preparing the meal itself and cleaning up after the meal. A case could be made that goodness of the main meal may have more to do with the consumption activity that takes place between preparing the meal and cleaning up after it, namely, eating the meal.

To the extent that survey participants associated "goodness of the main meal" with just the meal itself, this measure of satisfaction is, indeed, limited. However, if responsents had a broader concept of "goodness of the main meal" that included both preparing for and cleaning up after the meal, the measure of satisfaction becomes more adequate. Unfortunately, it is not possible to know, on the basis of the data available, exactly what the respondent considered when asked to rate satisfaction with goodness of the main meal. Therefore, this measure of satifaction with the output of meal preparation and cleanup is used in lieu of a superior measure.

For the entire group of women, the variables that were positively associated with satisfaction with goodness of the main meal were: the age of the woman, the amount of time the woman allocated to meal preparation and cleanup in 1975,

the employment time of the woman, the presence of a spouse, and the health of the woman. That age is positively associated with a measure of satisfaction is not surprising. This result is consistent with research regarding satisfaction. It is interesting that both higher levels of time devoted to meal preparation and cleanup and employment are associated with a higher rating of satisfaction. The effect of presence of a spouse and of good health on the level of satisfaction reported for goodness of the main meal may have little to do with any specific effects these independent variables have per se. Rather, it may be that women who have a spouse and who are in good health are more satisfied with all aspects of their life in general, and, thus, more satisfied with component parts of their life such as meal preparation and cleanup activities. Testing of this particular hypothesis, while interesting, is beyond the scope of this study.

The educational level of the woman, presence of poor health in a spouse and/or a child, living in an owner-occupied single-family dwelling, and owning a microwave oven and a vacuum cleaner are all negatively associated with reported level of satisfaction with goodness of the main meal of the day. All of these variables pertain to measures obtained in 1975. The relationship between the educational level of the woman and satisfaction with the output of a

household task may be explained by the concept of opportunity cost. Those women who have a higher level of education face a higher opportunity cost in terms of forgone wages and opportunites for career and personal advancement than do women with lower levels of education. Perhaps when engaged in meal preparation and cleanup activities, the women with higher education consider alternative ways of allocating their time and, in light of that consideration, report a lower level of satisfaction with the output associated with their labor in the home.

That presence of poor health in spouse or child would decrease satisfaction with goodness of the main meal of the day is not very surprising. If the woman is the one who takes care of the ill person, it may be that, due to the drain on her time and energy, she cannot prepare or cleanup after meals to her satisfaction. Further, family finances may be reduced. All of these factors may work together to diminish the level of satisfaction a woman would report for any part of her life, including meal-related activity. It also may be true that, as a part of the care of the ill family member, special foods must be prepared. The extra care required would certainly increase the time needed to prepare for meals and might in so doing increase frustration with and consequently lower satisfaction reported for the output of meal preparation and cleanup activity.

The negative relationship between owning a microwave oven and level of satisfaction reported for goodness of the main meal is of interest because, in 1975, few households owned a microwave oven. In this study, of the entire group of women, in 1975 only 5% owned this appliance. At that time, microwave ovens were relatively new and expensive, and the public was just beginning to learn how to use the appliance. Grocery stores were not stocked with "microwave ready" snacks and entrees. Thus, it is certainly possible that the women who did purchase the appliance were initially disappointed with the role of the appliance in meal preparation and, as a consequence, report a relatively lower level of satisfaction with the measure associated with the output of meal preparation and cleanup activity. The effect of presence of a vacuum cleaner is more difficult to understand.

The reduced equation for the entire group had an overall R^2 of 0.22 and an adjusted R^2 of 0.19. This compares favorably to an overall R^2 of 0.24 and an adjusted R^2 of 0.20 for the full equation. Mallows C_p statistic is 13.65 with 11 parameters in the equation. Addition of the number of children to the reduced equation does cause Mallows C_p to decline slightly. That decline, combined with the increase in the number of parameters to 12, suggests that the reduced equation that includes number of children

would be a good canditate for the best equation. However, when the number of children is added to the equation, not only is it not statistically significant at the chosen 5% criterion, but it contributes to a decline in statistical significance of the age of the woman. Thus, it was decided to omit the number of children from the set of variables in the reduced equation.

The decision of which variables to include in the reduced equation for the married group was not as straightforward. If the criterion used to build the reduced equation is that each variable in the equation is statistically significant, then the reduced equation would contain only three variables: the amount of time that husbands devote to house cleaning in 1975, the number of meals that the family eats in a restaurant per week, and the sex role attitudes of the woman in the home. The coefficient of the first variable is positive and, of the latter two, is negative.

According to the information available in the stepwise analysis, it is clear that no other variables will pass the 5% significance level criterion. However, with just three variables in the equation, Mallows C_p statistic is three times as large as the number of parameters in the model. The statistic does decline as more variables are added to the model. Approximate equality between the Mallows' C_p and

the number of parameters in the equation is obtained when ownership of a microwave oven and the amount of time that women devote to meal preparation and cleanup in 1975 are added to the other three variables in the model.

Given the theoretical interest in the relationship between the amount of time that women devote to meal preparation and cleanup and the level of satisfaction that they report with that task, it was decided to choose the five-variable equation, as the level of meal preparation and cleanup time of women in 1975 was the last variable added to the equation. The reduced equation for the married group then contained: the amount of time that husbands devoted to house cleaning in 1975, the number of meals the family ate in a restaurant per week, the sex role attitudes of the woman, the ownership of a microwave oven, and the level of time that women reported allocating to meal preparation and cleanup in 1975.

A positive association exists between the amount of time that women report for meal preparation and cleanup in 1975 and the level of satisfaction reported with goodness of the main meal of the day in the reduced equation. However, this relationship is not statistically significant, even at the 10% level. A positive coefficient is also noted for the amount of time that husbands devote to house cleaning in 1975. Perhaps when husbands contribute to household task

performance, even if it is not the same task, that act has the result of increasing the level of satisfaction the wife reports for other household tasks. Not only is this relationship statistically significant, using the partial R^2 as a basis for judgment, but this variable contributes more than all other variables considered to the improvement of the overall R^2.

The number of meals eaten in a restaurant per week, ownership of a microwave oven, and the sex role attitudes of the woman are negatively associated with the level of satisfaction the woman reports with goodness of the main meal of the day. Of these relationships, the one involving sex role attitutes is perhaps the most interesting. This suggests that the more egalitarian the sex roles, the lower the reported satisfaction with the output of a single household task. This relationship between sex role attitude and satisfaction is true even after controlling for the time contribution of husbands to two specific household tasks. Perhaps this result is the indirect result of the woman who tends toward egalitarian ideas regarding division of labor within the household being, at least in part, dissatisfied with the quantity and/or the quality of assistance received from the husband where household work is concerned.

Change in Meal Preparation and Cleanup Time

The regression analysis of the full equation for the entire group is reported in Table 13. Table 14 lists the results of the reduced equation that pertains to this group. Table 15 and Table 16 list the results of regression analysis of the full equation and the reduced equation for the married group, respectively.

For both the entire group of women and the married women, ten explanatory variables are included in the reduced equations. Of these ten variables, for either group of women considered, only one variable, change in the ownership of a dishwasher, is positively associated with a change in the amount of time that women devote to meal preparation and cleanup activities between 1981 and 1975. The remaining nine variables have negative coefficients.

Of the ten variables present in the reduced equations for each group of women, six variables are common to both equations. These are: the amount of time that women devoted to meal preparation and cleanup in 1975, the level of employment time of the woman in 1975, the level of family income reported for 1975, the change in the employment time of the woman between 1975 and 1981, the change in family income between 1981 and 1975, and a change in the ownership of a dishwasher.

The negative association between the level of meal preparation and cleanup time for a woman in 1975 and the change in that same variable between 1975 and 1981 was expected. It simply states that those who were spending a large amount of time at the task in 1975 were spending relatively less time at the same task in 1981. Similarly, those who devoted little time to the task in 1975 had, by 1981, increased the time allocated to that task. This relationship could be termed a "regression effect," denoting a tendency to regress towards the mean over time. In other words, those who are already at a relatively high point have no place to go but down and vice versa for those who begin at a relatively low point. The discussion of the negative relationship between the amount of time that women devote to meal preparation and cleanup and the two independent variables of level of employment time of the woman in 1975 and level of family income in 1975 remains relevant here. It is of interest to note that, in both the full and the reduced equations for both the entire group of women and the group of married women, the amount of time that women devoted to meal preparation and cleanup in 1975 and the level of employment time of the woman in 1975 are consistently significant statistically.

The three remaining common variables are all measures of change between 1975 and 1981. Again, employment time of

the woman and family income are present. The remaining variable that is common to both reduced equations, change in ownership of a dishwasher, is, as previously mentioned, the only variable in either reduced equation that is positively associated with the dependent variable. This result is somewhat surprising, as it suggests that obtaining a dishwasher between 1975 and 1981 is associated with an increase in the amount of time that a woman devotes to meal preparation and cleanup activities over the six years of the study. Given the negative and statistically significant association between ownership of a dishwasher in 1975 and the level of meal preparation and cleanup time of the woman in 1975, it was expected that this relationship would persist when the change in time allocated to this task versus the level of time allocated to this task was analyzed.

Four variables were unique to the reduced equation pertaining to the entire group of women: the educational level of the woman in 1975, two measures of marital status change, and a change in ownership of a garbage disposal. The relationship between educational level of a woman and the time that she devotes to meal-related activities has been discussed in a previous section. Those comments remain relevant here.

Recall that dummy variables were used to track changes in marital status between 1975 and 1981. Of the four dummy variables constructed for this purpose, the one indicating that a woman was single both in 1975 and in 1981 and the one indicating a change from married to single are statistically significant in the reduced equation. The women in the sample who remained single may have reduced the time devoted to meal preparation and cleanup activities simply because, as they have aged, they have begun to prepare smaller and simpler meals for themselves. Loss of a spouse would clearly reduce the need for women to devote time to meal preparation and cleanup. There is one less person in the home for whom to cook.

The loss of a garbage disposal between 1975 and 1981 is negatively associated with a change in the amount of time that women devote to meal preparation and cleanup. The reason for this relationship is not obvious and probably represents, at least in part, the effect of owning a given level of household technology.

Four variables are unique to the reduced equations for the married group. Two of these variables pertain to the time allocation decisions of the husband: the employment time of the husband in 1975 and the house cleaning time of the husband in 1975. Both of these variables have negative coefficients. This result implies that, for men as well as

for women, a decision to allocate time to work is equivalent to a decision not to allocate time to household tasks. It also suggests that the woman who received help from her husband in 1975 in house cleaning had, by 1981, reduced the time that she allocates to meal preparation and cleanup activities. This trend is underscored by another of the four variables unique to the married group, a change in the sex role attitudes of the woman. The relationship between this variable and the change in the amount of time that the married women devote to meal preparation and cleanup is negative. This result indicates that, as a woman's sex role attitudes move toward the egalitarian end of the scale, she tends to decrease the amount of time that she allocates to meal preparation and cleanup, all else equal.

For the reduced equation pertaining to the entire group of women, Mallows C_p statistic is virtually equal to the number of parameters in the equation. Thus, this reduced equation is a relatively good fit and the parameter estimates are relatively free of bias. For the reduced equation pertaining to the married group, a different situation was present.

For the set of reduced equations considered for the married group, the smallest difference between the Mallows C_p statistic and the number of parameters in the equation was achieved when eight variables had been added to the

equation. These variables were, in the order of entry into the stepwise procedure: change in the employment time of the woman, meal preparation and cleanup time of the woman in 1975, employment time of the woman, change in the ownership of a dishwasher, level of family income in 1975, change in sex role attitudes, health of the woman in 1975, and house cleaning time of husbands in 1975. Results of the stepwise procedure indicated that two more variables were statistically significant influences on the change in meal preparation and cleanup time of married women: the employment time of husbands in 1975 and change in family income level. After these two variables were added to the reduced equation, Mallows C_p statistic was smaller than the number of parameters in the model. The parameter estimates in the ten-variable reduced equation are relatively free from bias since Mallows C_p does not exceed the number of equation parameters. However, because of random error, the total squared error associated with this reduced equation is relatively low.

Change in the Level of Satisfaction With Goodness of the Meal

The regression analysis of the change in the level of satisfaction with goodness of the main meal of the day is reported in Table 17 through Table 20. Tables 17 and 18,

which pertain to the entire group are the full and the reduced equations, respectively. Similarly, Tables 19 and 20 are the full and the reduced equations for the married group.

In general, the decision as to which variables to include in the reduced equations was somewhat more straightforward for the entire group than it was for the married group. For the entire group, the results of several different judgmental factors converged on the same result. The results of the stepwise analysis indicated that twelve variables merited consideration for inclusion in the reduced equation. All of the variables that were statistically significant at the 5% level and below in the full equation are represented in that set of twelve variables. Further, Mallows C_p statistic for the thirteen parameter equation (twelve variables plus the intercept) is 13.08. This virtual equality indicates that the equation is a relatively good fit. Also, when these twelve variables are regressed on the dependent variable, all twelve are statistically significant at the 5% level or below. Consequently, this set of twelve independent variables was chosen for the reduced equation.

In contrast, the stepwise analysis suggested that, for the group of married women, the most parsimonious equation, in the sense of excluding from the reduced equation all of the independent variables that are not statistically

significant, consists of nine variables. However, for this parsimonious equation, Mallows C_p is almost three times as great as the number of parameters in the equation. And, while the agreement between the set of variables that are statistically significant in the full equation at or below the 5% level and the set of variables that the stepwise analysis suggested is substantial, such agreement is not total. As more variables are added to the reduced equation in the stepwise regression, Mallows C_p statistic begins to converge with the number of parameters in the equation, but this result is at the expense of adding variables to the equation that do not substantially increase the R^2 and are not themselves statistically significant. Given the lack of any real gains by adding more variables to the reduced equation, parsimony was chosen as the decision rule and the set of nine variables suggested by that rule was retained.

Of the set of independent variables in the reduced equations for the entire group and for the married group, there are six variables common to both groups: the level of satisfaction with the goodness of the main meal of the day reported by the woman in 1975, the age of the woman in 1975, the employment time of the woman in 1975, ownership of a dishwasher in 1975, a change in the employment time of the woman between 1975 and 1981, and a change in the health of the woman. With the exception of the age of the woman in

1975, all of these variables are negatively associated with a change in the level of satisfaction with goodness of the main meal of the day.

Among the six variables common to both groups of women, the level of satisfaction reported for goodness of the main meal of the day explains the greatest proportion of variance in the change in the level of satisfaction reported for goodness of the main meal. In fact, without prior knowledge of the level of meal-related satisfaction, even when all of the independent variables are included in the full equations for either group of women, only about one-fourth of the variance in the dependent variable could be explained. However, when the change in the level of meal-related satisfaction is the dependent variable of interest, the level of meal-related satisfaction in 1975, by itself, accounts for nearly one-quarter of the variance in the dependent variable. Clearly, it is important to control for the prior level of satisfaction by including it in the equation pertaining to the change in the level of satisfaction. The prediction and explanation of change in the level of satisfaction with goodness of the main meal of the day is greatly improved once the prior level of satisfaction is known. And, given the knowledge of the prior level of satisfaction, it is possible to note the contribution that other variables make to the prediction and

explanation of the change in the level of satisfaction with goodness of the main meal of the day.

Three of the six variables that are unique to the reduced equation for the entire group are negatively associated with a change in the level of meal-related satisfaction: living in an owner-occupied single-family dwelling, owning a microwave oven in 1975, and experiencing a change in ownership of a dishwasher. It may be that all three of these variables are each capturing a part of the effect of the level of technology existing in the household.

The three remaining variables are positively associated with change in the level of meal-related satisfaction. These variables are the number of children, the change in the number of children, and ownership of a garbage disposal in 1975.

Three variables are unique to the reduced equation for the married group. The amount of time that husbands allocate to meal preparation and cleanup is positively associated with change in the level of satisfaction with goodness of the main meal that the woman reports. This result is an interesting finding, especially since no empirical link was established between either the level of or the change in time that the women devote to meal preparation and cleanup and the change in satisfaction with meal-related activity reported by the woman.

The other two variables both pertain to household technology. Ownership of a refrigerator and a vacuum cleaner are negatively associated with a change in the level of satisfaction with meal-related activity.

Summary

Both the employment time of women and a change in that time, where applicable, have a pervasive effect in each of the equations considered. There appears to be some evidence that women substitute the labor of a spouse for their own labor in meal-related activity. Further, there is evidence, at least in 1975, that the purchase of a market substitute reduces the amount of time that women devote to meal preparation and cleanup.

Ownership of certain household durables is associated with all four dependent variables in the model, for either group of women. A dishwasher appears to be the most frequently appearing household durable when all of the reduced equations are examined. Ownership of this appliance in 1975 is negatively associated with the meal preparation and cleanup time and negatively associated with change in the level of satisfaction with goodness of the main meal of the day. Both of these results hold for each group of women. Change in the ownership of this appliance over time

is positively associated with a change in meal preparation and cleanup time for both groups of women.

With respect to the four hypotheses tested, the amount of time that women devote to meal preparation and cleanup in 1975 is related to selected demographic and socioeconomic factors. The attitudinal measure pertaining to sex roles is statistically significant for the group of married women only when change in both this measure and level of meal preparation and cleanup time are considered.

The amount of time that women devoted to meal preparation and cleanup in 1975, in turn, is associated with the change in time allotted to that household task. However, it does not appear to be a statistically significant influence on either measure of satisfaction with goodness of the main meal of the day.

CHAPTER 6: FINDINGS FOR HOUSE CLEANING

The model for house cleaning is parallel to the model pertaining to meal preparation and cleanup. As with the model for meal preparation and cleanup, there are four dependent variables and two groups of women considered. For each dependent variable, full and reduced equations are estimated for each group of women. Thus, once again, sixteen separate regression equations are estimated. The results of the reduced equations that pertain to house cleaning are the major focus of interest in this chapter.

As in the preceding chapter, the empirical results are organized into four separate sections, one section for each dependent variable in the model. Within each section, the similarities and differences found for each group of women are reviewed. All of the variables discussed are statistically significant at or below the 5% level, unless otherwise noted.

House Cleaning Time in 1975

The full equation for the level of house cleaning in 1975 is reported in Table 21. The reduced equation for this same group is given in Table 22. Table 23 lists the empirical results for the full equation pertaining to the married group. The reduced equation for this group is given in Table 24.

The reduced equations for each group of women are virtually identical. This fact, in itself, suggests that the same set of factors are significantly associated with the level of house cleaning time of the woman in 1975, regardless of the marital status of the woman.

Seven independent variables are included in the reduced equation for the entire group of women: the employment time of a woman, the number of children age 17 and under in her home, the level of her family income, ownership of a dishwasher, her sex role attitudes, her rating of the importance of having a neat house, and her rating of the importance of having a neat house compared to other activities. All of these variables pertain to 1975. With the exception of the number of children under age 18 in the home, all of these seven independent variables are statistically significant at the 5% level and below in the full equation for this dependent variable and for this group of women. Addition of number of children to the reduced equation was suggested by the results of the stepwise analysis. Comparison of the Mallows C_p statistic with the number of parmeters in the model indicated that the seven-variable equation represented a relatively good fit. This fact provided further support for the set of independent variables chosen for the reduced equation.

On the basis of similar judgmental criteria, five variables were chosen for the the reduced equation associated with the married group. With the exception of the number of minor children in the home and the woman's rating of the importance of having a neat house compared to other activities, these five variables are identical to the variables in the reduced equation for the entire group of women. All five of these variables are also statistically significant at or below the 5% level in the full equation pertianing to this dependent variable for the group of married women.

The five common variables represent a mix of other time allocation decisions, family income level, the presence of household durables, and attitudinal variables. Three of these common variables are positively associated with the amount of time that women devote to house cleaning in 1975: owning a dishwasher in 1975, the sex role attitutes that women reported in 1975, and the importance that women placed on having a neat home.

The positive association between ownership of a dishwasher and house cleaning time is an unexpected result. It indicates that women who own a dishwasher devote a larger proportion of time to household cleaning than do those women who do not own one. There does not appear to be anything about a dishwasher, per se, that would encourage a woman to

allocate relatively more time to household cleaning. Perhaps, as did the presence of a vacuum cleaner in the set of explanatory variables for meal preparation and cleanup, this household durable is capturing the effect of the level of technology in the household.

Both sex role attitude and reported importance of having a neat house are measures of attitude. For differing reasons, the positive and statistically significant relationship of both of these variables with the house cleaning time of women in either group is interesting. The sex role attitude variable indicates that, the more egalitarian the sex role attitudes of the woman with repsect to household division of labor, the greater amount of time she devotes to household cleaning. This result is opposite that expected. The positive relationship between the reported importance of having a neat house and household cleaning time suggests that when a woman reports that having a neat house is relatively important, that attitude provides her with a motivation to spend time in house cleaning activities to obtain a neat house.

Two of the five variables common to the reduced equations for both groups of women are negatively associated with the amount of time that women allocate to house

cleaning in 1975: the employment time of the woman and the level of family income.

As discussed with respect to meal preparation and cleanup time, given a fixed amount of time per day to allocate among activities, a decision to work outside the home is a decision to reduce time allocated to household tasks of any type. Unlike meal preparation and cleanup, however, house cleaning is not of such vital importance to physical survival and maintenance of good health. Also, house cleaning time may be shifted to one time during the week, for example a Saturday morning. Or tasks associated with house cleaning may be performed for a few minutes per day throughout the week. Meals, on the other hand, must be provided one to several times per day, every day of the week. Further, it is possible to delay cleaning the house for a period of time. Persons may become malnourished or even die if nutritional intake is not sufficient. However, living amid clutter is not known to severly affect a person's health. It is also possible that, aside from the actual reduction of time available for household cleaning, allocating time to employment may alter a woman's desire to clean house. She may want to devote her noncommitted time to another activity. For example, she may prefer to spend time reading a story to her child to dusting the living room.

The level of family income may indirectly influence the amount of time that women devoted to house cleaning in 1975. It is reasonable to think that the house cleaning time of women decreases as family income rises because the women is working outside the home. But, the employment time of women has been controlled. However, in the absence of any measure of market substitutes for house cleaning, it may be speculated that the higher the level of family income, the greater is the ability of the family to purchase the services of others as a substitute for one's own labor in the household.

In addition to the five variables common to both reduced equations for this dependent variable, the reduced equation pertaining to the entire group of women also contains the number of minor children in the home and the rating of importance that women assign to having a neat home compared to other activities. As more children are added to the home the house cleaning time of women becomes greater. This positive relationship is not surprising. A more interesting result is the negative relationship between the importance that women assign to having a neat house and the time that they allocate to house cleaning. Recall that, for both groups of women, the greater the reported importance of having a neat house, the greater the amount of time the women devoted to house cleaning, all else equal. The

negative relationship between this other measure of importance and the house cleaning time of women suggests that, for the women in this study, when considered apart from other activities, the importance of having a neat home can be a motivation for devoting time to house cleaning. But, having a neat home is probably relatively less important when women consider other activities that they enjoy doing.

For each of the two reduced equations, Mallows C_p statistic is slightly below the number of parameters in the equation. This fact indicates that the parameters estimated in each equation are relatively free of bias and each equation is a relatively good fit.

Satisfaction with Cleanliness of the Home

The full equations are reported in Tables 25 and 26 for the entire group and for the married group, respectively. Table 27 lists the empirical results for the reduced equation pertaining to the entire group. The reduced equation for the married women is reported in Table 28.

Unlike the reduced equations for the entire group and for the married group in the previous section, there is relatively little commonality in the set of independent variables chosen for the entire group as opposed to those

chosen for the married group for this dependent variable. The set of variables for the entire group focuses on socioeconomic characterisics of a woman. For the married group, the socioeconomic characteristics are replaced, to a degree, by family-related characteristics, by indicators of the level of technology in the household, and by one measure of attitude. Given the differences in the reduced equations for both groups of women, first the two variables that the two groups have in commmon are discussed. Then, the variables that are unique to the entire group are reviewed, followed by a discussion of the variables that are unique to the married group.

The household technology variables are common to both groups of women. Of the set of household technology variables considered for inclusion in either reduced equation, it is interesting that the items that have a statistically significant relationship with satisfaction with cleanliness of home are commonly associated, not with house cleaning, but with meal preparation. Opposing effects are noted. Ownership of a dishwasher is negatively associated with the level of satisfaction with cleanliness of the home reported by the woman. Ownership of a garbage disposal is positively associated with the level of satisfaction with cleanliness of the home. It is difficult

to understand why owning either appliance would be related to a relatively lower level of satisfaction, all else equal.

The variables unique to the reduced equation for the entire group of women are the age of the woman, the amount of employment time of the woman in 1975, the presence of a spouse, and the level of family income. The negative association between the age of the woman and the level of satisfaction that she reports for cleanliness of the home is unexpected. It is reasonable to speculate that a woman in her third or fourth decade of life is more to have a spouse and/or children in the home who limit her ability to clean the home to her satisfaction. It is also reasonable to consider that a woman in her fifth or sixth decade of life is likely to have a health condition that limits her ability to clean her home to her satisfaction. However, in the full equation, when these and other factors are explicitly controlled, the negative association between the age of the woman and the level of satisfaction with the cleanliness of the home persists and is statistically significant at the 5% level.

Also unexpected is the postive association between the employment time of the woman and reported satisfaction with cleanliness of the home. Perhaps this association is capturing a psychological factor that has not been measured. It is true that women who are employed cannot devote as much

time to household tasks as can the ones who are not employed outside the home. This constraint on time would be expected to be associated with lower levels of satisfaction with the output of house cleaning activities. However, to the extent that a woman does not enjoy house cleaning, being employed outside the home provides her with a justification for avoiding house cleaning activities. She may then report a higher level of satisfaction with the output of those house cleaning activities because she can tell herself and others that, because her time is constrained, the house cleaning that she does accomplish is, after all, the best that she can do.

A negative relationship is noted between the level of family income and the level of reported satisfaction with cleanliness of the home. In the absence of a measure of a market substitute for house cleaning, it may be speculated that those women who have a higher level of family income may purchase the cleaning services of others. Further, it may be the case that the level of satisfaction that the woman reports for cleanliness of the home is related to the output of the house cleaning activities of these others.

For the group of married women, the amount of time devoted to meal preparation and cleanup by the woman in 1975, the employment time of her husband in 1975, and the level of importance that the woman reports associating with

the neatness of her home are all positively related to her reported level of satisfaction with cleanliness of the home. The first two of these three positive associations may be related to the idea that time allocated to a task that is localized to one area of the home or outside the home altogether limits the time available to alter the results of previous house cleaning activites and, hence, a relatively high level of statisfaction with the output of that activity is retained.

The third positive association is interesting. Recall that, for the reduced equation pertaining to the amount of time that women devote to house cleaning, there was a positive association between the importance that a woman placed on a neat house and the amount of time that she devoted to house cleaning activities. There is also a positive association observed between the importance that a woman places on a neat house and satisfaction reported for the output of house cleaning activity. These two results, taken together, give support to the idea that women who consider that having a neat house is relatively important devote time to house cleaning and are satisfied with the result of that activity.

The equations for either group of women were judged to be a good fit based on several factors. First, for each group of women, there was general agreement between the set

of independent variables that were isolated as statistically significant in the full equation and the set suggested by the stepwise analysis. Second, all of the factors selected were statistically significant at or below the 5% level. Finally, the Mallows C_p statistic indicated that each of the reduced equations had a relatively low total squared error and represented a good fit.

Change in House Cleaning Time

The full and the reduced equations for the entire group pertaining to the change in the amount of time that women devote to house cleaning between 1975 and 1981 are given in Tables 29 and 30. For the married group, the empirical results are reported in Tables 31 and 32 for the full and the reduced equations, respectively.

There are five independent variables for the reduced equation pertaining to the entire group. These same five variables are also a part of the reduced equation for the married group. Of these, four are negatively associated with a change in the amount of time that women allocate to house cleaning between 1975 and 1981: the amount of time devoted to house cleaning in 1975 by the woman, her employment time in 1975, a change in her employment time, and a change in her educational level. The fifth common variable, presence of poor health in a husband or child, is

positively associated with a change in the house cleaning time of women.

The negative association between the amount of time that a woman devotes to house cleaning in 1975 and the change in the time she allocates to that same activity over the six years between 1975 and 1981 reflects a regression effect. That is, if a woman spent a large amount of time on house cleaning in 1975, the only direction of change in time is downward. Conversely, if a woman spent a relatively small amount of time on house cleaning activities in 1975, the only direction of change is upward. Recall that a similar relationship was found between the time that a woman devoted to meal preparation and cleanup activites in 1975 and the change in the time that she allocated to that same activity in the six years between 1975 and 1981.

The negative relationship between the employment time of the woman in 1975 and a change in the amount of time that she allocates to house cleaning is evidence, once again, of the fact that time devoted to one activity cannot, in general, be simultaneously devoted to another activity as well. A similar explanation of direction of association could also be made for the independent variables of change in employment time of the woman and change in the educational level of the woman. Note that, with this latter independent variable, it is not possible for education to

decline. Therefore, a change in that variable is an increase. It is also true that an increase in educational level requires that one devote time to being educated. Hence, the connection of this variable to the issue of time allocation in the face of relative time scarcity.

Only one factor common to the reduced equations for both groups of women is positively associated with a change in the level of house cleaning time. That factor is presence of poor health in a spouse and/or a child. It is possible that a health condition in a spouse or a child would require an environment that was clean. As a consequence, over time, the woman in the home may have increased the amount of time that she allocates to house cleaning activities.

For the group of married women, four additional factors are present in the reduced equation: the number of children in the home in 1975, ownership of a vacuum cleaner in 1975, a change in the house cleaning time of the husband and a change in the presence of poor health in a spouse and/or a child. All three of these additional factors are positively associated with a change in the amount of time that women allocated to house cleaning between 1975 and 1981.

The greater the number of children in the home in 1975, the greater the amount of time a woman allocates to house cleaning in 1981 relative to 1975, and vice versa.

Certainly, it is also true that, for any given number of children in the home in 1975, over the six-year period from 1975 to 1981, those children were growing and becoming more capable of increasing the need for house cleaning. Note that, for the entire group of women, this same positive relationship was also found between the number of children and the amount of time that women allocated to house cleaning activities in 1975.

Of the stock of household technology measured in this study, a vacuum cleaner is the one item that is directly related to house cleaning. Frankly, it is difficult to think of any other durable good that would be directly related to this activity. Ironically, this is the one place in all of the empirical results where the relationship between the dependent variable under consideration and ownership of a vacuum cleaner behaved as expected. The relationship is easy to understand. When a person does not own a vacuum cleaner, that person does not spend time vacuuming, one of the major tasks associated with household cleaning.

The positive association between a change in the amount of time that husbands allocate to house cleaning and a change in the amount of time that their wives devote to the same activity is interesting. This result suggests that,

for this particular household task, over time husband and wife may function more as a team than as substitutes.

The relationship between the presence of poor heath in a spouse or a child in 1975 and the change in the level of time that a woman allocates to house cleaning activities between 1975 and 1981 has already been discussed. This discussion is also applicable to the measure of change in the presence of poor health in a spouse or a child.

The reduced equations for both groups of women are associated with a relatively low Mallows C_p statistic, indicating that, in both equations, the total squared error is relatively low. Also, all of the independent variables associated with either reduced equation are statisitically significant at or below the 5% level.

Change in the Level of Satisfaction With Cleanliness of the Home

Tables 33 and 34 pertain to the full and the reduced equations for the entire group. The empirical results for the full and the reduced equations for the married group are given in Tables 35 and 36, respectively.

Of all of the reduced equations considered, the ones pertaining to change in the level of satisfaction with cleanliness of the home are by far the largest. There are fifteen independent variables in the reduced equation for

the entire group of women. Seventeen independent variables are present in the reduced equation for the married group.

Nine variables are common to both the entire group of women and the married group. Of these nine common independent variables, seven are negatively associated with a change in the level of satisfaction with cleanliness of the home. The level of satisfaction reported with cleanliness of the home in 1975 is one of these seven variables. As was noted with the empirical analysis of the change in the level of satisfaction with goodness of the main meal of the day, once the level of satisfaction in 1975 is known and included in the regression equation, the greater proportion of variance in the dependent variable is explained. The six remaining independent variables that are common to both groups of women, and are negatively associated with a change in satisaction with cleanliness of the home are: the employment time of the woman in 1975, the number of children in the home in 1975, the level of education of the woman in 1975, the level of family income in 1975, ownership of a dishwasher in 1975, and a change in the amount of time that a woman allocates to meal preparation and cleanup.

As the employment time of a woman increases, she spends relatively less time in house cleaning activities. This reduction of time allocated to house cleaning activities

could lower her satisfaction with the outcome of those activities, a clean home. This time allocation issue may also be a factor when the level of education and family income are considered. In a somewhat related manner, as the educational level of a woman increases, her time available for house cleaning diminishes. Thus, over time, she may be less satisfied with the results of her labor in this area. Women who have a relatively larger family income may devote more time to such activities as shopping. To the extent that they do, less time is available for household work of any type. Note that time allocated to market shopping was not among the factors controlled in this study.

The larger the number of children in the home, the greater the probability that house cleaning will be needed and the lower the probability that the result of house cleaning, a clean home, will remain intact for any length of time. Both of these factors may tend to dampen reported satisfaction with the outcome of house cleaning activities over time.

The negative relationship between ownership of a dishwasher and the level of satisfaction with house cleaning has been discussed in a previous section. That commentary remains relevant when the level of satisfaction with house cleaning changes over time.

For the entire group of women, both the amount of meal preparation and cleanup time of a woman and the change in that amount over time are negatively associated with a change in the level of satisfaction with house cleaning. For the group of married women, only the change in female meal preparation and cleanup time is statistically significant.

Two factors that are positively associated with a change in the level of satisfaction with cleanliness of the home are common to both groups of women: ownership of a microwave oven and a change in family income.

The health of the woman in 1975, the importance of having a neat house in 1975, change in ownership of a garbage disposal, and change in the sex role attitudes of the woman are the independent variables unique to the reduced equation for the entire group of women. The association of each of these four variables with the change in the level of satisfaction with cleanliness of the home is positive. An additional variable that is unique to the entire group is the change in the level of importance that a woman reported for a neat home compared to other activities. An increase in this variable was associated with a decrease in the change in the level of satisfaction with cleanliness of the home.

The variables that are unique to the reduced equation for the married group include: the age of the woman in 1975, the sex role attitudes of the woman in 1975, the meal preparation and cleanup time of the husband in 1975, the relative importance of a neat home compared to other activities reported in 1975 and a change in the house cleaning time of husbands.

It is interesting that, for the entire group of women, a change in sex role attitudes is positively associated with a change in the level of satisfaction with cleanliness of the home. But, when the married women are considered as a group, it is the level of sex role attitudes of the woman in 1975 that is statistically significant, and, the direction of association is negative. This finding suggests that, as the sex role attitude of the woman tends to become more egalitarian, the level of satisfaction with cleanliness of the home that she reports for 1981 tends to be lower than that reported for 1975. The participation of her husband in either meal preparation and cleanup or house cleaning is associated with a relative increase in satisfaction with house cleaning over time. This fact suggests that, for the married women, there is an interplay among their own sex role attitude, participation of the husband in household tasks, and the satisfaction that the woman reports with the output associated with those tasks.

Summary

As with the model pertaining to meal preparation and cleanup, the employment time of the woman and a change in that employment time are both influential factors on all four dependent variables pertaining to house cleaning. This is true for both the entire group of women and the group of married women.

In contrast to the model for meal preparation and cleanup, it was not possible to consider market substitutes for house cleaning activity. However, it was possible to consider the influence two attitudinal variables might have on house cleaning activity. These two variable were the importance of having a neat house, considered by itself, and the importance of having a neat house, considered in relation to other alternative activities. Of the two attitudinal measures, the importance of having a neat house was more often statistically significant. This variable is a part of the reduced equation for the amount of time both groups of women allocate to house cleaning in 1975, for the level of satisfaction with cleanliness of the home for the group of married women, and for the change in the level of satisfaction with cleanliness of the home for the entire group of women. It always has a positive coefficient.

With respect to the hypotheses tested, certain demographic, socioeconomic, technological, and psychological variables are significantly associated with the time that women allocate to house cleaning. The amount of time that women devote to house cleaning is not a statistically significant influence on satisfaction with cleanliness of the home. However, for the married group, the amount of time that women devoted to meal preparation and cleanup is a significant influence on level of satisaction with cleanliness of the home. Previous levels of time devoted to house cleaning have a statistically significant association with a change in that time. However, neither the amount of time that women devoted to house cleaing in 1975 nor the change in house cleaning time between 1975 and 1981 is a statistically significant influence on the change in the level of satisfaction that those women report for house cleaning activity between 1975 and 1981.

CHAPTER 7: CONCLUSION

Summary

The purpose of this study was to ascertain the determinants of change in the amount of time that women devote to meal preparation and cleanup, and to house cleaning activities and to relate the change in this time use to the change in the level of satisfaction reported for the outcomes of the activities performed.

A conceptual model, based on the Deacon and Firebaugh (1988) model of managerial behavior, was proposed. The conceptual model diagramed the expected relationship among the amount of and change in time that a woman allocated to selected household tasks and the level of and change in the satisfaction that the woman reported with the result of performing those household tasks.

A review of the relevant literature indicated the important factors both to consider and to control when observing the relationships among amount of or change in time devoted to a household activity and the level of or change in satisfaction derived from that activity. This review of the literature suggested that, given the Deacon and Firebaugh conceptual framework of family managerial behavior, certain relationships should be found to exist

between the time allocated to and the satisfaction associated with any given household task.

Data pertaining to the single and married women in the Time Use Longitudinal Panel Study, 1975-1981 were used in this study. Knowledge of the relevant literature and of the available data guided selection of the variables. The empirical analysis focused on two household tasks: meal preparation and cleanup, and house cleaning.

Four hypotheses were proposed. First, it was hypothesized that the amount of time that a woman devotes to a given household task is both influenced by and constrained by certain demographic, social, economic, technological, and psychological factors that pertain to that woman. Second, the amount of time that a woman allocated to a given task was, in turn, hypothesized to have an influence on her level of satifaction with the output associated with that task. Third, it was hypothesized that, over time, the initial level of her satisfaction with the output of the task and any changes in demographic, social, economic, technological, and psychological factors are associated with a change in the amount of time that she devotes to the given household task. Finally, it was hypothesized that a change in the amount of time that a woman devotes to the task, in turn, is associated with a change in her level of satisfaction with

the output of the task when other factors that could influence her level of satisfaction have been controlled.

The Statistical Package for the Social Sciences was used to accomplish some preliminary data review. However, the Statistical Analysis System was used to perform most of the empirical analysis. A combination of several judgmental criteria were used to sift out the more influential independent variables from the less influential ones in each of the equations considered.

Empirical Results

Review of the sample characteristics

Between the years 1975 and 1981, the women in the sample changed the amount of time that they allocated to meal preparation and cleanup and to house cleaning. In 1975, women in the entire group spent slightly under 10 hours per week preparing for meals and cleaning up after them. By 1981, these women were spending, on average, about half an hour more per week at the same task. The group of married women spent slightly over 10 hours per week in meal preparation and cleanup activities, about 45 minutes more per week than had the women in the entire group. In 1981, the married women were spending about an hour and a half more on meal preparation and cleanup than they had in 1975.

In general, by 1981, both groups of women had decreased the amount of time that they allocated to house cleaning. In 1975, women in the entire group spent slightly more than 5 hours per week cleaning the house while married women devoted about a half an hour per week more to the same task. In 1981, both groups of women were spending less than 5 hours per week in house cleaning, although the married women still averaged more time per week at the task than did women in the entire group.

Between 1975 and 1981, household composition appeared to remain relatively stable, on average, for women in both groups. In 1975, approximately 70% of the entire group of women reported that they were married. For this same group, only 7% reported any change in marital status in 1981. Women in both groups had, on average, one child present in the home in both 1975 and 1981. This suggests that, in general, the need for a woman to devote time to meal preparation and cleanup and to household cleaning was not appreciably different in 1981 as opposed to 1975.

Both groups of women reported about the same constraints on the time and energy that they had available for household work. Women in both groups were employed outside the home slightly less than 20 hours per week, on average, in 1975. By 1981, the employment time for both

groups of women had declined about 2 to 3 hours per week. This decline suggests that some of those employed in 1975 had either stopped working in the market or had reduced their work time by 1981. This decline in employment time suggests that the women in the sample had slightly more time available for household work in 1981 than they had in 1975. Energy available for household work did not appear to be diminished by poor health for either group of women since women in both groups reported being in good health in 1975 and again in 1981.

There was some evidence that women in both groups used a market substitute, meals purchased in a restaurant, to replace their own time in meal preparation and cleanup activity. In general, the group of married women reported that they and their families ate out one more meal per week than did the families of the entire group.

The women in the sample that were married had the opportunity to substitute the labor of their husbands in the home for their own labor in household tasks. In 1975, women in the married group reported that their husbands spent about an hour a week in meal preparation and cleanup activities and about an hour a week in house cleaning activities. In 1981, husbands were devoting about a half an hour more to meal preparation and cleanup and about a half an hour less to house cleaning.

On average, the married women enjoyed slightly larger family income and owned a greater proportion of household durables than did the entire group of women. This suggests that the group of married women would have a somewhat better opportunity to substitute the paid services of others or the services of household durable goods for their own labor in the home than would women in the entire group.

Review of the hypotheses

The results of the empirical analysis indicated that the first hypothesis was, in general, supported. Of the various factors considered to influence the time that women allocate to either household task considered, the employment time of women was among the most important. Other influential factors were the level of family income, the number of children in the home, and ownership of a dishwasher. For the task of meal preparation and cleanup, use of a market substitute was negatively associated with the time that women in both groups allocated to that task. A measure of a market substitute was not available for the task of house cleaning.

Support for the second hypothesis was found for meal preparation and cleanup. It is interesting that, for household cleaning a "cross-over" effect is apparent. For this household task, it is not time in house cleaning that is

significantly related to satisfaction with cleanliness of the home, but time in meal preparation and cleanup.

With respect to the third hypothesis, both level of and change in employment time was, once again, a dominant influential factor where a change in the level of time that a woman allocates to household work is concerned. Other factors included the presence of a spouse for the entire group, or the time contribution of the spouse for the married group, and a change in a few of the household durables.

Finally, for meal preparation and cleanup, no evidence was found that the change in satisfaction with goodness of the main meal was associated with a change in the level of time that a woman devoted to meal-related activity, all else equal. However, as with the measures pertaining to 1975, a cross-over effect is noted for house cleaning. Both the amount of time and the change in the amount of time that women allocate to meal preparation and cleanup were negatively related to the change in the level of satisfaction that women report for cleanliness of the home. This relationship is statistically significant and holds true for both the entire group of women and the married group.

Implications for Changing Standards

A change in the time allocated to a given household task may indirectly reveal a change in the standards set for that task when the levels of satisfaction associated with that task are compared over time. The basis for this indirect revelation rests in the structure of the Deacon and Firebaugh framework of the managerial process and on the relationship that time and satisfaction have within that structure.

An unmet demand is a stimulus for the managerial process to begin (Deacon & Firebaugh, 1988). Following the model proposed by Deacon and Firebaugh (1988), the demand and the resources allocated to meet that demand are inputs into the managerial process. Planning the action to take to meet the demand and taking that action are the means used to transform the unmet demand into a met demand. The output of the managerial process consists of demand responses and resource changes. Clearly, acceptance of this description of the managerial process is acceptance of the idea that input into that managerial process is linked to the output of that managerial process.

Standards are a part of the linkage between input into the managerial process and output from that process. Developed as a part of planning the use of resources to meet demands, standards are measures of quantity and/or quality

that reflect a reconciliation of demands with available resources (Deacon & Firebaugh, 1988). For example, the need to prepare a meal is a demand. Time for preparing that meal is a necessary resource. As a resource, time is an input into the managerial process. The amount of time actually allocated to preparation of the meal represents a reconciliation of the demand with available resources, or a standard set concerning meal preparation. Similar examples could be given for meal cleanup and for house cleaning.

When the managerial process is complete, one of the ways to measure the degree to which the demand has been met is to assess the level of satisfaction associated with the output of the managerial process (Deacon & Firebaugh, 1988). In general, higher levels of satisfaction are achieved when the standards pertaining to a given demand are met or exceeded.

In this study, there are two relationships between amount of time and level of satisfaction that are of interest. One is the relationship between the time that women allocate to meal preparation and cleanup and the level of satisfaction those women report with goodness of the main meal of the day. The other is the relationship between the time that women devote to house cleaning and the level of satisfaction those women report with cleanliness of the home.

The empirical results indicate that, for both groups of women, changes in the time allocated to meal preparation and cleanup and to house cleaning from 1975 to 1981 were not accompanied by a change in the level of satisfaction associated with those tasks. The direction of change in the measures of time did not seem to matter. Women spent more time on meal preparation and cleanup in 1981 and less time on house cleaning relative to time devoted to each activity in 1975. But, for both activities, there is no appreciable difference in the level of satisfaction reported for either 1975 or 1981. A potential explantion for this result is that the standards pertaining to each household task have been altered to permit the same level of satisfaction to be achieved with different time inputs.

Suggestions for Future Research

One of the major limitations of this study was the lack of precise measures of the quantity and quality of meals prepared, cleanup after meals, and clean houses. More precise measures of these dimensions are necessary to more accurately research the standards pertaining to these household tasks. Improved measures of quantity and quality would also permit analysis of the relationship between the actual output of the managerial process and satisfaction with that output.

It would be interesting to observe the relationships among the variables used in this study for yet another group of women: those who have children. As mentioned in a previous section, it is not possible to take the age of the children into account when one is using a mixed group of individuals who have children and those that do not. It is expected that those who do have children will spend more time on house cleaning and less time on meal preparation when the children are young. As the children mature, less time may be spent on either activity as the children begin to contribute to household work. These speculations are open to research.

Also open to research is the question of whether or not women rely on market goods and/or services to substitute for their own labor in the home for tasks other than meal preparation and cleanup. What factors encourage a women to substitute market goods and/or services for their own labor in the home?

Another question raised by this reseach is whether or not there are other variables, not captured in this study, that would influence the level of satisfaction reported by women for the output of meal preparation and house cleaning activities. Knowledge of the previous level of satisfaction does explain a large portion of the variance in the change of the level of satisfaction, but not all. Perhaps

different psychological variables are involved in the relationship. Or, perhaps a person's outlook on life in general would have an effect. For example, an optimistic person might tend to express greater satisfaction with any aspect of life than would a pessimistic person.

It would be of interest to learn whether the results obtained in this study could be replicated for other household tasks. For example, what factors affect the amount of time that women devote to doing the laundry or to marketing activities.

Finally, it would be most interesting to be able to compare the results obtained in this study with results obtained in a similar study undertaken at some future point in time. Such a comparison would reveal whether or not the same factors continued to influence the amount of time that women devote to selected household tasks and the satisfaction that those women report with the output of those tasks.

APPENDIX A: CONSTRUCTION OF THE DATA SET

The original data are contained on two tapes, one for the 1975-1976 data collection and one for the 1980-1981 data collection. Each tape contains two files, a household and respondent file and a household and spouse file. These two files differ in length because not all of the respondents were married. Both the respondent and the spouse files contained the records of male and female survey participants.

To prepare data for analysis in this study, it was necessary to create a single file that contained all data of interest on one tape. This preparation required several steps and was complicated by the fact that a different format was used to organize the data in 1981 than was used in 1975. Data gathered in 1975-1976 were organized on two separate tapes. One tape pertained to the respondents in the survey. The other tape pertained to the spouses of those respondents.

In general, the spouses of the survey respondents answered slightly shorter versions of the same questionnaire answered by the survey respondent. Consequently, each tape contained information about a similar set of variables arranged in a virtually identical manner.

The orginal data collectors used the records pertaining to the spouses of the survey respondents to create a "supplemental respondent" file. To create this supplemental respondent file, the location of selected variables on the records pertianing to spouses was transposed. For example, the record of any given female survey participant classified as a spouse would contain the variables "sex of respondent" and "sex of spouse". The variable "sex of respondent" would be coded 1 to indicate male and the variable "sex of spouse" would be coded 2 to indicate female. To transform the spouse record into a "supplemental respondent" record, the coding of these variables was reversed. The variable "sex of respondent" was recoded as a 2 and the variable "sex of spouse" was recoded as a 1. In a similar manner, for all those classified as a spouse, all data which pertained specifically to the spouse, in effect, "traded places" with the data which pertained specifically to the respondent. This group of "supplemental respondents" was then concatenated with the group of respondents to form the complete group of survey respondents in 1975. To obtain the variables of interest in the 1975 data collection, it was only necessary to sort on the variable "sex of the respondent" to obtain the subset of women in the sample and then, from the complete data record, select the variables of interest. This sorting process was accomplished using a

program entitled SYNCSORT which was available through the Iowa State Computation Center.

The data were arranged in such a way that, for each woman in the sample that was married, the data pertaining to her husband was a part of her record. Thus, the records of the subset of all women in the sample contained data pertaining to the woman and data pertaining to her husband, if she were married.

For the 1981 data, the original survey researchers did not create a "supplemental respondent" file from the spouse file. Consequently, more steps were required to organize the 1981 data. First, the females were sorted from the household and respondent file. Second, the females were sorted from the household and spouse file. Both of these steps were accomplished by using the SYNCSORT program. Third, the married females were matched with their husbands by using the family identification number as a criterion for the match. This matching resulted in two subfiles: (1) the file containing the female respondents and male spouses and (2) the file containing the female spouses and male respondents. This matching was accomplished by using a computer program entitled Matchup. This is another utility program available through the Iowa State Computation Center.

Because marital status was not used as a selection criterion, not all female respondents matched with a male

spouse. Of course, by definition, all female spouses matched with a male respondent. Fourth, these two subfiles were concatenated to form one file containing the record of both single females and married females. For the women who were married, the data pertaining to their husbands was contained on their record. At the end of this process, 559 cases remained.

Finally, the records obtained from the females in 1975 were matched with the records obtained from the females in 1981, again using the family identification number as the matching criterion. The number of cases retained was, of course, bounded by the number of cases remaining in 1981. Recall that it was necessary for survey participants to have been a part of the 1975 data collection to be included in the 1981 data collection.

Further selection criteria were applied. Individual records were omitted from the study if the woman was missing data on time use or on reported level of satisfaction with the output of selected household activities in 1975 or 1981. It was thought that these were crucial variables and should not be estimated. Those who were not head of a household or the spouse of the head of a household were omitted. These selection criteria brought the sample size down to 360.

APPENDIX B: TABLES

Table 1. Table of the means, medians, and standard deviations of the level of the variables in 1975 and of the change in the variables between 1975 and 1981, for the entire group of women, n = 360.

Variable	Mean	Median	Standard Deviation
Level in 1975:			
Satisfaction with goodness of main meal	8.16	8.00	1.84
Satisfaction with cleanliness of the home	6.99	8.00	2.43
Female age	42.82	38.00	17.33
Female meal preparation time	593.40	563.00	303.26
Female house cleaning time	310.03	245.50	251.67
Female employment time	1190.65	584.00	1122.80
Proportion married	0.70	----	0.05
Number of children	1.01	1.00	1.41
Number of meals per week eaten in restaurant	5.91	5.00	5.87
Female education	2.89	3.00	1.22
Female health	3.28	3.00	0.87
Proportion of husbands and/or children with poor health	0.18	----	0.04
Family income	16887.40	14306.50	20064.90
Proportion owning:			
Single family dwelling	0.58	----	0.49
Dishwasher	0.32	----	0.47
Refrigerator	0.99	----	0.11
Freezer	0.39	----	0.57
Microwave oven	0.05	----	0.22
Garbage disposal	0.21	----	0.40
Vacuum cleaner	0.90	----	0.30

Table 1 (continued)

Variable	Mean	Median	Standard Deviation
Importance of a neat house	2.46	2.00	0.62
Importance of a neat house compared to other activities	2.18	2.00	0.62
Sex role score	9.12	10.00	2.72
Change between 1975 and 1981			
Satisfaction with goodness of main meal	-0.53	0.00	2.02
Satisfaction with cleanliness of the home	-0.15	0.00	2.62
Female meal preparation time	8.24	14.50	346.90
Female house cleaning time	-57.91	-27.50	284.56
Female employment time	-149.07	0.00	962.05
Marital status:			
Married 1975, married 1981	0.66	----	0.47
Single 1975, single 1981	0.27	----	0.45
Single 1975, married 1981	0.04	----	0.18
Married 1975, single 1981	0.03	----	0.17
Number of children	0.08	0.00	1.00
Number of meals per week eaten in restaurant	-1.86	0.00	5.77
Female education	0.09	0.00	0.53
Female health	-0.16	0.00	1.02
Proportion of husbands and/or children with poor health	-0.06	----	0.50
Family income	6418.28	5903.00	24367.70

Table 1 (continued)

Variable	Mean	Median	Standard Deviation
Proportion owning:			
Single family dwelling	0.17	----	0.49
Dishwasher	0.11	----	0.47
Freezer	0.08	----	0.53
Microwave oven	0.18	----	0.41
Garbage disposal	0.11	----	0.39
Importance of neat house	-0.09	0.00	0.67
Importance of neat house compared to other activities	0.02	0.00	0.80
Sex role score	0.99	1.00	2.24

Table 2. Table of the means, medians, and standard deviations of the level of the variables in 1975 and of the change in the variables between 1975 and 1981, for the group of married women, n = 250.

Variable	Mean	Median	Standard Deviation
Level in 1975:			
Satisfaction with goodness of main meal	8.19	8.00	1.61
Satisfaction with cleanliness of the home	7.42	8.00	1.84
Female age	38.85	35.00	14.86
Female meal preparation time	641.30	647.50	289.75
Female house cleaning time	343.43	284.00	252.25
Female employment time	1151.53	416.50	1032.16
Male employment time	2099.70	2469.00	1203.40
Male meal preparation time	63.63	17.00	106.38
Male house cleaning time	63.09	0.00	148.14
Number of children	1.23	1.00	1.45
Number of meals per week eaten in restaurant	6.63	4.00	5.82
Female education	2.99	3.00	1.09
Female health	3.31	3.00	0.82
Proportion of husbands and/or children with poor health	0.22	----	0.41
Family income	21087.85	16960.00	22644.70
Proportion owning:			
Single family dwelling	0.70	----	0.45
Dishwasher	0.39	----	0.49
Refrigerator	0.99	----	0.11
Freezer	0.43	----	0.49
Microwave oven	0.06	----	0.23
Garbage disposal	0.22	----	0.40
Vacuum cleaner	0.95	----	0.22

Table 2 (continued)

Variable	Mean	Median	Standard Deviation
Importance of a neat house	2.48	2.00	0.56
Importance of a neat house compared to other activities	2.17	2.00	0.60
Sex role score	9.34	10.00	2.82
Change between 1975 and 1981:			
Satisfaction with goodness of main meal	-0.69	0.00	1.81
Satisfaction with cleanliness of the home	-0.71	0.00	2.12
Female meal preparation time	13.65	13.50	339.76
Female house cleaning time	-71.98	-50.00	298.92
Female employment time	-193.24	0.00	958.76
Male employment time	1.59	0.00	1116.60
Male meal preparation time	23.31	20.50	133.97
Male house cleaning time	-37.58	0.00	165.30
Number of children	0.19	0.00	1.09
Number of meals per week eaten in restaurant	-1.54	0.00	5.74
Female education	0.15	0.00	0.59
Female health	-0.21	0.00	0.99
Proportion of husbands and/or children with poor health	-0.05	----	0.55
Family income	8470.25	8833.00	27952.60
Proportion owning:			
Single family dwelling	0.23	----	0.47
Dishwasher	0.11	----	0.47
Freezer	0.09	----	0.55
Microwave oven	0.20	----	0.42
Garbage disposal	0.10	----	0.35

Table 2 (continued)

Variable	Mean	Median	Standard Deviation
Importance of neat house	-0.04	0.00	0.71
Importance of neat house compared to other activities	0.10	0.00	0.78
Sex role score	0.75	1.00	2.13

Table 3. Pearson product moment correlations of the dependent and independent variables for the entire group of women, n = 360.

Variable	1	2	3	4
Level 1975				
1. Satisfaction with goodness of main meal	--			
2. Satisfaction with cleanliness of home	28*	--		
3. Female meal preparation time	20*	-14*	--	
4. Female house cleaning time	07	-04	28*	--
5. Female age	12	-23*	39*	02
6. Female work time	-05	13*	-59*	-36*
7. Presence of husband	-02	25*	11*	16*
8. Number of children	-09*	03	04	15*
9. Meals per week family eats in restaurant	-11*	01	-31*	-16*
10. Female education	-26*	10*	-36*	-09*
11. Female health	08	-05	01	-01
12. Presence of poor health in husband and/or children	-02	01	12*	02
13. Family income	-06	04	-19*	-06
14. Ownership of single family dwelling	-14*	04	22*	12*
15. Presence of dishwasher	-22*	-07	-11*	17*
16. Presence of refrigerator	-01	-02	02	05
17. Presence of freezer	-08	00	09	09*
18. Presence of microwave oven	-23*	-06	-03	03
19. Presence of garbage disposal	-09*	10*	-03	-01
20. Presence of vacuum cleaner	11*	01	07	-04
21. Importance of neat house	24*	-02	15*	12*
22. Importance of neat house compared to other activities	03	01	05	-09*
23. Sex role score	-10*	13*	13	09*

* $p < .05$

5	6	7	8	9	10	11	12	13	14
--									
-24*	--								
-33*	-07	--							
-36*	-07	23*	--						
-32*	26*	20	39*	--					
-45*	32*	14*	03	23*	--				
11*	05	01	-05	-03	14*	--			
01	-20*	19*	12*	-01	-18*	-04*	--		
-12*	14*	29*	-01	14*	16*	13*	-10*	--	
32*	-11*	35*	10*	04	-05	06	07	22*	--
-03	06	20*	10*	18*	32*	22*	-10	31*	34*
03	-07	-06	07	01	-01	02	05	-03	04
15*	-04	13*	19*	09	-09	-17*	-07	17*	45*
06	01	04	03	13	15*	-06	-05	70	07
04	14*	04	-09*	00	29	01	04	-33*	18*
05	07	23*	-37*	-13*	17*	27*	11*	15*	11*
17*	-14*	07	-16*	-12*	-27*	-10*	-05	04	06
08	-10*	-01	07	-03	00	07*	09	-12*	12*
-24*	06	09*	07	-06	19*	-02	05	15*	12*

Table 3 (continued)

Variable	15	16	17	18
Level 1975				
1. Satisfaction with goodness of main meal				
2. Satisfaction with cleanliness of home				
3. Female meal preparation time				
4. Female house cleaning time				
5. Female age				
6. Female work time				
7. Presence of husband				
8. Number of children				
9. Meals per week family eats in restaurant				
10. Female education				
11. Female health				
12. Presence of poor health in husband and/or children				
13. Family income				
14. Ownership of single family dwelling				
15. Presence of dishwasher	--			
16. Presence of refrigerator	-01	--		
17. Presence of freezer	18*	07	--	
18. Presence of microwave oven	27*	03	12*	--
19. Presence of garbage disposal	38*	02	23*	13*
20. Presence of vacuum cleaner	19*	20*	-16*	-14*
21. Importance of neat house	-11*	-06	02	-17*
22. Importance of neat house compared to other activities	06	-09*	03	05
23. Sex role score	12*	03	15*	-05

19	20	21	22	23
--				
13*	--			
-10*	-11*	--		
02	-11*	01	--	
08	06	-14*	-02	--

Table 3 (continued)

Variable	1	2	3	4
Change between 1975 and 1981				
24. Satisfaction with goodness of main meal	-51*	-12*	02	-12*
25. Satisfaction with cleanliness of home	-64*	-13*	18*	06
26. Female meal preparation time	-07	11*	-67*	-18*
27. Female house cleaning time	04	02	-12*	-64*
28. Female work time	00	01	23*	29*
Marital status:				
29. Married 1975, married 1981	03	25*	09	19*
30. Single 1975, single 1981	02	-29*	-04	15*
31. Married 1975, single 1981	-11*	-02	04	-08
32. Single 1975, married 1981	-01	09	-19*	-03
33. Number of children	10*	10*	-08	19*
34. Meals per week family eats in restaurant	06	09	20*	19*
35. Female education	-05	07	01	10*
36. Female health	-17*	-01	-20	04
37. Presence of poor health in husband and/or children	11*	08	-04	-02
38. Family income	01	06	-15*	-05
39. Ownership of single family dwelling	08*	21*	-19*	-04
40. Presence of dishwasher	00	05	01	-12*
41. Presence of freezer	01	05	-12*	07
42. Presence of microwave oven	-10*	06	-12*	-14*
43. Presence of garbage disposal	-09*	-04	-01	-13*
44. Importance of neat house	-06	05	00	-17*
45. Importance of neat house compared to other activities	-17*	09	31*	-17*
46. Sex role score	-05	19	-05	01

5	6	7	8	9	10	11	12	13	14
16*	-10	-12*	-05	16*	-07	03	17*	-05	02
36*	-23*	-31*	-25*	36*	-30*	10*	04	-12*	-10*
02	35*	04	-07	-33*	16*	-17*	04	08	-21*
-33	17*	-06*	-14*	02	02	-02	08	07	-04
05	-44*	-03	20*	00	-04	20*	05	-10*	07
03	25*	92*	23*	17*	12*	06	16*	29*	32*
40*	03	-93*	-23*	-18*	-19*	00	-21*	-26*	-28*
01	-05	92*	23*	06	05	-12*	07	-02	03
-17*	03	-93*	-23*	-06	-05	03	12*	-10*	-19*
-36*	-02	14*	-29*	-14*	09	-11*	04	-07	-38*
12*	18*	04	-31*	-83*	-04	08	10*	06	05
-23*	-11*	20*	22*	-01	-20*	-01	13*	16*	01
-24*	04	-04	16*	12*	14*	-67*	-12*	-06	-11*
-02	23*	-01	-77*	-03	12*	-06	-77*	11*	08
-15*	06	09	04	27*	23*	10*	-04	31*	08
-50*	05	13*	01	-04	21*	-03	07	-08	-61*
-13*	-02	03	-05	-06	02	-32*	03	-05	-06
-18*	10*	02	04	-04	20*	19*	-05	00	-06
-11*	16*	07	-07	-03	11*	02	-12*	21*	10*
-10*	06	04	22*	04	-04	-20*	-02	-07	05
-02	-05	07	07	00	-02	07	19*	-14	-05
-21*	14*	13	-01	21*	14*	-24*	04	18*	00
02	05	-13*	-01	05	02	03	-02	00	-20*

Table 3 (continued)

Variable	15	16	17	18
Change between 1975 and 1981				
24. Satisfaction with goodness of main meal	-05	-06	-11*	-03
25. Satisfaction with cleanliness of home	-11*	-02	-04	08
26. Female meal preparation time	-04	01	-20*	-02
27. Female house cleaning time	-18*	-02	-04*	-09
28. Female work time	10*	02	20*	00
Marital status:				
29. Married 1975, married 1981	21*	-02	09	04
30. Single 1975, single 1981	17*	06	-08	-02
31. Married 1975, single 1981	-03	-10*	08	-01
32. Single 1975, married 1981	-10*	02	-13*	-04
33. Number of children	-27*	-08	-41*	-07
34. Meals per week family eats in restaurant	-03	-01	-08	-06
35. Female education	10*	00	05	02
36. Female health	04	-07	11	09*
37. Presence of poor health in husband and/or children	-01	-01	20*	-02
38. Family income	25*	-01	13*	18*
39. Ownership of single family dwelling	-13*	-04	-37*	-08
40. Presence of dishwasher	-44*	-03	-08	-05
41. Presence of freezer	13*	02	-44*	-06
42. Presence of microwave oven	09*	03	19*	-22*
43. Presence of garbage disposal	-19*	-03	19*	-06
44. Importance of neat house	-07	05	-25*	06
45. Importance of neat house compared to other activities	12*	10*	03	04
46. Sex role score	12*	10*	03	04

19	20	21	22	23
02	06	-02	18*	-07
-13*	01	21*	09*	-23*
-10*	07	-11*	-12*	06
-03	15*	-05	06	-04
06	-16*	-04	10*	-01
04	21*	05	-02	11*
-02	-22*	-09*	-01	-14*
-01	02	07	03	-07
-05	-03	04	03	11*
-11*	10*	11*	-07	-07
10*	23*	10*	02	17*
03	01	01	00	14*
-06	-28*	-07	-23*	10*
12*	-10*	09*	-05	02
18*	04	04	06	08
-08	04	-01	-02	01
-16*	-01	-02	-21*	-05
-04	10*	00	03	-04
24*	13*	01	03	18*
-32*	-23*	09	03	03
-13*	08	-48*	00	-08
-03	10*	02	-57*	12*
00	06	-07	-02	-47*

Table 3 (continued)

Variable	24	25	26	27
Change between 1975 and 1981				
24. Satisfaction with goodness of main meal	--			
25. Satisfaction with cleanliness of home	30*	--		
26. Female meal preparation time	00	-23*	--	
27. Female house cleaning time	06	-08	23*	--
28. Female work time	-08	07	-55*	-45*
Marital status:				
29. Married 1975, married 1981	-11*	-30*	08	-07
30. Single 1975, single 1981	15*	33*	-13*	02
31. Married 1975, single 1981	-03	-01*	-12*	03
32. Single 1975, married 1981	-05	-01	23*	10*
33. Number of children	01	-05	27*	16*
34. Meals per week family eats in restaurant	04	08	-11*	-06
35. Female education	08	01	01	-15*
36. Female health	-11*	-12*	23*	-07
37. Presence of poor health in husband and/or children	-13*	-08	-05	-13*
38. Family income	-06	-01	02	-01
39. Ownership of single family dwelling	-05	-19*	30*	-05
40. Presence of dishwasher	-08	-09*	21*	20*
41. Presence of freezer	-01	-11*	15*	-03
42. Presence of microwave	10*	-10*	08	08
43. Presence of garbage disposal	05	07	00	11*
44. Importance of neat house	13*	-12*	22*	20*
45. Importance of neat house compared to other activities	-11*	-23*	30*	05
46. Sex role score	-02	19*	-04	-05

28	29	30	31	32	33	34	35	36	37
--									
-06	--								
07	-86*	--							
09*	-27*	-12*	--						
-11*	-25*	-11*	-03	--					
-24*	15*	-17*	-04	07	--				
-02	08	-08	-11*	12*	19*	--			
07	19*	-18*	00	-06	03	07	--		
-14*	-07	-01	10*	14*	07	-13*	04	--	
-12*	02	02	-08	-02	07	-03	-17*	03	--
-01	12*	-15*	-08	15*	-10*	16*	10*	01	-02
-13*	17*	-24*	-11*	28*	50*	-06	15*	09	-15*
-23*	-02	-13*	13*	25*	29*	05	-04	28*	01
-08	06	-14*	-09*	31*	07	07	07	-01	-01
-07	07	-12*	-01	13*	-05	07	06	-09*	22*
-17*	-02	-10*	15*	14*	09*	-03	02	20*	12*
-17*	09	-02	-06	-12*	16*	03	10*	-02	-22*
-19*	14*	-14*	-02	00	04	-11*	01	29*	-10*
04	-15*	16*	05	-05	00	-05	04	05	-13*

Table 3 (continued)

Variable	38	39	40	41
Change between 1975 and 1981				
24. Satisfaction with goodness of main meal				
25. Satisfaction with cleanliness of home				
26. Female meal preparation time				
27. Female house cleaning time				
28. Female work time				
Marital status:				
29. Married 1975, married 1981				
30. Single 1975, single 1981				
31. Married 1975, single 1981				
32. Single 1975, married 1981				
33. Number of children				
34. Meals per week family eats in restaurant				
35. Female education				
36. Female health				
37. Presence of poor health in husband and/or children				
38. Family income	--			
39. Ownership of single family dwelling	-03	--		
40. Presence of dishwasher	-05	08	--	
41. Presence of freezer	-01	18*	05	--
42. Presence of microwave oven	-03	03	03	02
43. Presence of garbage disposal	-17*	-01	30*	-01
44. Importance of neat house	-07	13*	15*	03
45. Importance of neat house compared to other activities	11*	07	11*	-06
46. Sex role score	03	06	-06	07

42	43	44	45	46
--				
03	--			
-19*	-05	--		
-08	-01	00	--	
-13*	-09	-03	00	--

Table 4. Pearson product moment correlations of the dependent and independent variables for the group of married women, n = 250.

Variable	1	2	3	4
Level 1975				
1. Satisfaction with goodness of main meal	--			
2. Satisfaction with cleanliness of home	58*	--		
3. Female meal preparation time	-01	19*	--	
4. Female house cleaning time	21*	04	23*	--
5. Female age	10	-02	33*	02
6. Female work time	-05	-09*	-54	-29*
7. Male work time	-04	12*	-13*	04
8. Male meal preparation time	30*	33*	33*	17*
9. Male house cleaning time	30*	17*	16*	02
10. Number of children	-09*	-01	06	08
11. Meals per week family eats in restaurant	-18*	-20*	-34*	-25*
12. Female education	-17*	-17*	-30*	-06
13. Female health	-09*	-12*	-03	04
14. Presence of poor health in husband and/or children	02	01	19*	-03
15. Family income	-09*	-14*	24*	05
16. Ownership of single family dwelling	-04	-15*	-33*	-15*
17. Presence of dishwasher	-21*	-28*	-14*	22*
18. Presence of refrigerator	00	02	08	07
19. Presence of freezer	-03	-11*	07	04
20. Presence of microwave oven	-17*	-07	-03	05
21. Presence of garbage disposal	02	07	03	-03
22. Presence of vacuum cleaner	-15*	-12*	-02	03
23. Importance of neat house	31*	17*	04	14*
24. Importance of neat house compared to other activities	05	-04	15*	-02
25. Sex role score	-07	-10*	-01	18*

* $p < .05$

5	6	7	8	9	10	11	12	13	14
--									
-08	--								
-53*	11*	--							
25*	00	07	--						
03	11*	10*	31*	--					
-28*	-07	38*	-09*	14*	--				
-14*	24*	05	-30*	02	28*	--			
-33*	26*	07	-15*	-14*	01	23*	--		
11*	-02	01	-11*	-15*	08	03	20*	--	
18*	-31*	-12*	00	-12*	-02	-11*	-39*	-03	--
-05	21*	15*	-11*	-07	-09*	10*	18*	13*	-19*
61*	03	-21*	15*	22*	03	03	-14*	20*	-06
14*	03	-04	-11*	-15*	10*	16*	23*	29*	-21*
05	-11*	02	07	03	09*	02	-05	02	06
29*	12*	07	07	25*	08	-01	-08	-03	-10*
12*	-07	03	-05	-08	03	19*	10*	02	-07
12*	18*	01	27*	13*	-09*	03	20*	01	-05
14*	-06	-22*	-04	-42*	-51*	-11*	02	07	10*
19*	08	-09*	23*	27*	-18*	-06	-31*	-19*	-06
21*	-19*	-11*	05	14*	16*	-01	-07	31*	18*
-12*	-05	25*	-13*	21*	09*	-13*	07	-03	02

Table 4 (continued)

Variable	15	16	17	18
Level 1975				
1. Satisfaction with goodness of main meal				
2. Satisfaction with cleanliness of home				
3. Female meal preparation time				
4. Female house cleaning time				
5. Female age				
6. Female work time				
7. Male work time				
8. Male meal preparation time				
9. Male house cleaning time				
10. Number of children				
11. Meals per week family eats in restaurant				
12. Female education				
13. Female health				
14. Presence of poor health in husband and/or children				
15. Family income	--			
16. Ownership of single family dwelling	18*	--		
17. Presence of dishwasher	29*	38*	--	
18. Presence of refrigerator	-03	10*	-01	--
19. Presence of freezer	20*	46*	22*	07
20. Presence of microwave oven	06	11*	23*	03
21. Presence of garbage disposal	40*	19*	26*	01
22. Presence of vacuum cleaner	09*	08	13*	24*
23. Importance of neat house	05	06	-05	-07
24. Importance of neat house compared to other activities	-14*	19*	02	-09*
25. Sex role score	17*	11*	11*	04

19	20	21	22	23	24	25
--						
18*	--					
31*	26*	--				
-02	04	08	--			
06	-13*	-04	-18*	--		
01	07	-02	-24	-01	--	
22*	-04	10*	04	-15*	-06	--

Table 4 (continued)

Variable	1	2	3	4
Change between 1975 and 1981				
26. Satisfaction with goodness of main meal	-52*	-16*	05	-09
27. Satisfaction with cleanliness of home	-33*	-43*	08	09
28. Female meal preparation time	-03	-06	-66*	-24*
29. Female house cleaning time	03	-06	-19*	-76*
30. Female work time	-11*	07	35*	33*
31. Male work time	09	00	-09*	-19*
32. Male meal preparation time	-30*	-37*	-30*	-04
33. Male house cleaning time	-24*	-16*	-13*	04
34. Number of children	14*	21*	-13*	-15*
35. Meals per week family eats in restaurant	20*	25*	21*	25*
36. Female education	-04	02	-02	10*
37. Female health	-08	-12*	-18*	04
38. Presence of poor health in husband and/or children	04	08	-08	-02
39. Family income	06	-06	-11*	-06
40. Ownership of single family dwelling	06	15*	-17*	-09
41. Presence of dishwasher	08	06	01	-18*
42. Presence of freezer	-02	-06	-09*	09*
43. Presence of microwave oven	-08	-05	-01	-12*
44. Presence of garbage disposal	03	01	-04	-09*
45. Importance of neat house	-08	09*	-05	-24*
46. Importance of neat house compared to other activities	-07	-10*	-27*	-09*
47. Sex role score	-07	-07	-12*	02

5	6	7	8	9	10	11	12	13	14
11*	-19*	-09*	-04	-17*	05	-01	-11*	-04	16*
14*	-18*	-12*	00	-12*	-19*	-05*	-13*	13*	17*
-27*	29*	-04	-27*	-17*	-15*	18*	08	-27*	-04
01	20*	-11*	-15*	-11*	-09*	16*	02	-11*	12*
07	-50*	09*	12*	-01	17*	-02	-14*	33*	08
-04	15*	-52*	-20*	-03	-22*	11*	25*	05	-19*
-18*	-02	-10*	-92*	-30*	11*	27*	17*	13*	-04
00	-11*	-08	-25*	-89*	-13*	-03	12*	-19*	09*
-53*	-09*	08	02	09*	-26*	-11*	04	-27*	01
04	-19*	07	26*	-04	-25*	-85*	-12*	04	14*
-23*	-15*	27*	03	-07	22*	-06	-33*	-02	13*
-35*	08	08	-24*	-07	15*	11*	11*	-60*	-16*
-07	34*	09*	18*	43*	00	01	24*	-11*	-76*
-02	00	-02	-18*	-08	00	30*	18*	15*	-09*
-53*	-04	28*	-03	-17*	-03	-06	10*	-18*	07
-22*	02	-05	01	-07	-10*	-05	03	-36*	-01
-10*	13*	00	08	-23*	07	00	13*	23*	-09*
-02	16*	15*	18*	15*	-06	-06	-03	00	-18*
-10*	08	15*	03	25*	32*	07	-05	-09*	-08
-13*	-09*	07	-15*	-23*	15*	11*	01	-01	19*
-05	05	-11*	-26*	-22*	-13*	18*	-06	-29*	-07
-09*	01	-08	-02	-44*	01	09*	09*	07	04

Table 4 (continued)

Variable	15	16	17	18
Change between 1975 and 1981				
26. Satisfaction with goodness of main meal	-04	00	-12*	-09*
27. Satisfaction with cleanliness of home	-07	10*	03	-05
28. Female meal preparation time	07	-35*	-11*	-05
29. Female house cleaning time	12*	-07	-19*	00
30. Female work time	-10*	17*	12*	07
31. Male work time	04	-06	-01	-04
32. Male meal preparation time	-06	06	23*	-04
33. Male house cleaning time	-15*	04	19*	-02
34. Number of children	-14*	-62*	-41*	-10*
35. Meals per week family eats in restaurant	05	-05	-06	00
36. Female education	11*	-12*	05	03
37. Female health	-04	-20*	04	-09*
38. Presence of poor health in husband and/or children	13*	17*	01	-01
39. Family income	33*	09*	-26*	-01
40. Ownership of single family dwelling	-16*	-85*	-29*	-10*
41. Presence of dishwasher	-07	-21*	-46*	03
42. Presence of freezer	-01	02	20*	03
43. Presence of microwave oven	22*	12*	-01	02
44. Presence of garbage disposal	-08	06	-15*	06
45. Importance of neat house	-21*	-19*	-13*	06
46. Importance of neat house compared to other activities	20*	-08	10*	10*
47. Sex role score	02	-17*	15*	15*

19	20	21	22	23	24	25	26	27	28
-10*	-02	-05	-07	-08	24*	-90	--		
13*	16*	00	10*	10*	24*	-15*	34*	--	
-23*	-04	-19*	07	-08	-21*	-04	-03	-23*	--
-09*	-10*	-01	10*	-15*	-04	-10*	07	-13*	33*
17*	04	07	00	-07	18*	09*	01	18*	-61*
-17*	-09*	01	11*	-07	-08	-18*	-20*	-12*	14*
01	10*	-28*	-01	-19*	-02	14*	03	04	17*
-21*	08	-12*	36*	-21*	-15*	-17*	10*	15*	10*
-43*	-11*	-18*	-13*	06	-10*	-14*	-03	-05	31*
26*	-14*	11*	11*	06	-01	20*	-05	02	-21*
02	02	03	-08	-02	02	13*	13*	13*	01
00	03	-13*	-16*	-04	-29*	12*	-11*	-13*	33*
24*	-02	16*	-17*	12*	-12*	04	-09*	-14*	-04
18*	22*	19*	02	08	05	01	-06	13*	-08
-44*	-12*	-18*	-12*	-01	-18*	-08	-02	-12*	27
-16*	-40	-10*	02	-12*	-19*	-11*	-03	-19*	31*
-45*	-08	-06	07	-07	02	-15*	-08	-15*	08
25*	-26*	21*	09*	03	16*	14*	08	-03	-04
06	-06	-28*	-41*	-02	16*	-07	05	-06	11*
-30*	05	-21*	-02	-58*	01	-11*	12*	-16*	-27*
01	04	-10*	16*	15*	-61*	05	-20*	-12*	30*
-22*	07	-03	06	01	-01	-45*	03	18*	-04

Table 4 (continued)

Variable	29	30	31	32
Change between 1975 and 1981				
26. Satisfaction with goodness of main meal				
27. Satisfaction with cleanliness of home				
28. Female meal preparation time				
29. Female house cleaning time	--			
30. Female work time	-49*	--		
31. Male work time	13*	-11*	--	
32. Male meal preparation time	01	06	16*	--
33. Male house cleaning time	07	06	-04	28*
34. Number of children	14*	-19*	14*	-11*
35. Meals per week family eats in restaurant	06	19*	-14*	-24*
36. Female education	03	08	-22*	-01
37. Female health	01	-26*	02	26*
38. Presence of poor health in husband and/or children	01	-15*	12*	-18*
39. Family income	-03	05	14*	18*
40. Ownership of single family dwelling	03	-12*	02	-06
41. Presence of dishwasher	26*	-30*	17*	-12*
42. Presence of freezer	-08	-06	15*	-04
43. Presence of microwave oven	08	00	-04	-19*
44. Presence of garbage disposal	03	-08	-12*	-03
45. Importance of neat house	15*	-14*	06	07
46. Importance of neat house compared to other activities	24*	-21*	09*	24*
47. Sex role score	42*	-01	02	08

33	34	35	36	37	38	39	40	41	42
--									
-09*	--								
06	07	--							
03	01	06	--						
07	18*	-12*	06	--					
-36*	03	-07	-20*	04	--				
08	-16*	-11*	18*	-01	-02	--			
12*	58*	11*	09*	19*	-23*	-18*	--		
03	35*	-01	-07	28*	03	-08	17*	--	
19*	01	-02	09*	-03	-02	00	-04	01	--
-16*	-09*	04	07	-20*	27*	-04	-09*	06	-04*
-24*	11*	-10*	01	14*	23*	-03	-10*	15*	-01
15*	12*	-10*	07	09*	-25*	-09*	18*	23*	11*
24*	04	-14*	-07	35*	-04	06	07	11*	-13*
42*	05	-03	10*	07	-21*	10*	14*	-04	23*

Table 4 (continued)

Variable	43	44	45	46	47
Change between 1975 and 1981					
26. Satisfaction with goodness of main meal					
27. Satisfaction with cleanliness of home					
28. Female meal preparation time					
29. Female house cleaning time					
30. Female work time					
31. Male work time					
32. Male meal preparation time					
33. Male house cleaning time					
34. Number of children					
35. Meals per week family eats in restaurant					
36. Female education					
37. Female health					
38. Presence of poor health in husband and/or children					
39. Family income					
40. Ownership of single family dwelling					
41. Presence of dishwasher					
42. Presence of freezer					
43. Presence of microwave oven	--				
44. Presence of garbage disposal	06	--			
45. Importance of neat house	-22*	01	--		
46. Importance of neat house compared to other activities	-18*	-13*	-02	--	
47. Sex role score	-11*	01	-04	13*	--

Table 5. Regression of the amount of time women devote to meal preparation and cleanup in 1975 on the set of independent variables, full equation for the entire group of women, n = 360.

Variable Level 1975	b	t	p > |t|
Female age	0.55	0.49	0.6241
Female employment time	-0.11	-9.16	0.0001
Presence of spouse	163.21	4.61	0.0001
Number of children	55.48	4.78	0.0001
Number of meals per week eaten in restaurant by family	-8.98	-3.63	0.0003
Female education	-31.05	-2.37	0.0185
Female health	6.20	0.40	0.6892
Presence of husbands and/or children with poor health	-34.27	-0.99	0.3233
Family income (00's)	-0.30	-4.19	0.0001
Own single family dwelling	35.99	1.05	0.2937
Presence of dishwasher	-85.58	-2.64	0.0087
Presence of refrigerator	-161.94	-1.40	0.1625
Presence of freezer	8.03	0.32	0.7518
Presence of microwave oven	-42.18	-0.71	0.4806
Presence of garbage disposal	117.81	3.26	0.0012
Presence of vacuum cleaner	193.78	3.78	0.0002
Sex role score	-3.82	-0.79	0.4306
Constant	714.38	4.91	0.0001

R^2	0.47	F	17.71
Adjusted R^2	0.44	df	17 & 342
C_p	18.00	p > F	0.0001

Table 6. Regression of the amount of time women devote to meal preparation and cleanup in 1975 on the set of independent variables, reduced equation for the entire group of women, n = 360.

Variable Level 1975	b	t	p > |t|
Female employment time	-0.11	-9.13	0.0001
Presence of spouse	167.90	5.56	0.0001
Number of children	47.53	4.56	0.0001
Number of meals per week eaten in restaurant by family	-9.90	-4.12	0.0001
Female education	-41.62	-3.73	0.0002
Family income (in 00's)	-0.30	-4.49	0.0001
Presence of garbage disposal	93.00	2.82	0.0051
Presence of vacuum cleaner	154.03	3.32	0.0010
Constant	630.46	12.77	0.0001

R^2	0.45	F	35.69
Adjusted R^2	0.44	df	8 & 351
C_p	9.63	p > F	0.0001

Table 7. Regression of the amount of time women devote to meal preparation and cleanup in 1975 on the set of independent variables, full equation for the group of married women, n = 250.

Variable Level 1975	b	t	p > |t|
Female age	1.82	1.12	0.2640
Female employment time	-0.13	-8.36	0.0001
Male employment time	0.03	2.28	0.0234
Male meal preparation and cleanup time	-0.38	-2.70	0.0075
Male house cleaning time	0.14	1.10	0.2716
Number of children	44.59	3.15	0.0019
Number of meals per week eaten in restaurant by family	-11.59	-4.15	0.0001
Female education	-1.77	-0.11	0.9136
Female health	-3.54	-0.19	0.8465
Presence of husbands and/or children with poor health	-15.92	-0.40	0.6907
Family income (in 00's)	-0.35	-4.77	0.0001
Own single family dwelling	105.27	2.21	0.0283
Presence of dishwasher	-96.79	-2.71	0.0072
Presence of refrigerator	-33.79	-0.26	0.7935
Presence of freezer	-9.20	-0.34	0.7375
Presence of microwave oven	-115.34	-1.71	0.0888
Presence of garbage disposal	179.34	4.24	0.0001
Presence of vacuum cleaner	147.74	1.64	0.1033
Sex role score	-8.25	-1.51	0.1332
Constant	687.77	4.14	0.0001

R^2	0.51	F	12.77
Adjusted R^2	0.47	df	19 & 230
C_p	20.00	p > F	0.0001

Table 8. Regression of the amount of time women devote to meal preparation and cleanup in 1975 on the set of independent variables, reduced equation for the group of married women, n = 250.

Variable Level 1975	b	t	p > |t|
Female employment time	-0.12	-8.56	0.0001
Male meal preparation and cleanup time	-0.37	-2.73	0.0067
Number of children	39.38	3.84	0.0002
Number of meals per week eaten in restaurant by family	-12.61	-4.90	0.0001
Family income (in 00's)	-0.35	-5.17	0.0001
Own single family dwelling	129.40	4.00	0.0001
Presence of dishwasher	-114.17	-3.55	0.0005
Presence of garbage disposal	167.98	4.44	0.0001
Constant	831.12	25.05	0.0001

R^2	0.49	F	28.77
Adjusted R^2	0.47	df	8 & 241
C_p	9.72	p > F	0.0001

Table 9. Regression of the level of satisfaction with goodness of main meal of the day women report in 1975 on the set of independent variables, full equation for the entire group of women, n = 360.

Variable Level 1975	b	t	p > |t|
Female age	0.02	1.80	0.0721
Female meal preparation and cleanup time (00's)	0.12	2.93	0.0036
Female house cleaning time (000's)	0.54	1.36	0.1739
Female employment time (000's)	0.21	2.03	0.0436
Presence of a spouse	0.81	3.04	0.0025
Number of children	-0.16	-1.88	0.0598
Number of meals per week eaten in restaurant by family	0.01	0.74	0.4614
Female education	-0.33	-3.42	0.0007
Female health	0.31	2.80	0.0055
Presence of husbands and/or children with poor health	-0.74	-2.92	0.0037
Family income (000000's)	0.24	0.05	0.9645
Own single family dwelling	-0.86	-3.47	0.0006
Presence of dishwasher	-0.40	-1.66	0.0975
Presence of refrigerator	1.04	1.24	0.2150
Presence of freezer	-0.05	-0.30	0.7664
Presence of microwave oven	-1.52	-3.50	0.0005
Presence of garbage disposal	0.44	1.65	0.1010
Presence of vacuum cleaner	-1.11	-2.93	0.0036
Sex role score	0.01	0.15	0.8796
Constant	6.56	5.99	0.0001

R^2	0.24	F	5.72
Adjusted R^2	0.20	df	19 & 340
C_p	20.00	p > F	0.0001

Table 10. Regression of the level of satisfaction with goodness of main meal of the day women report in 1975 on the set of independent variables, reduced equation for the entire group of women, n = 360.

Variable Level 1975	b	t	p > |t|
Female age	0.02	2.80	0.0053
Female meal preparation and cleanup time (00's)	0.11	3.14	0.0018
Female employment time (000's)	0.19	2.06	0.0402
Presence of a spouse	0.75	2.99	0.0030
Female education	-0.30	-3.36	0.0009
Female health	0.24	2.27	0.0238
Presence of husbands and/or children with poor health	-0.73	-3.01	0.0028
Own single family dwelling	-0.99	-4.59	0.0001
Presence of microwave oven	-1.55	-3.83	0.0002
Presence of vacuum cleaner	-0.76	-2.36	0.0187
Constant	7.42	12.38	0.0001

R^2	0.22	F	9.62
Adjusted R^2	0.19	df	10 & 349
C_p	13.65	p > F	0.0001

Table 11. Regression of the level of satisfaction with goodness of main meal of the day women report in 1975 on the set of independent variables, full equation for the group of married women, n = 250.

Variable Level 1975	b	t	p > |t|
Female age	0.01	1.58	0.1147
Female meal preparation and cleanup time (00's)	0.13	2.70	0.0075
Female house cleaning time (0000's)	-0.51	-0.12	0.9063
Female employment time (000's)	0.25	2.01	0.0459
Male employment time (00000's)	-0.26	-0.03	0.9799
Male meal preparation time (000's)	0.20	0.20	0.8456
Male house cleaning time (00's)	0.33	3.75	0.0002
Number of children	-0.11	-1.04	0.3006
Number of meals per week eaten in restaurant by family	-0.02	-1.18	0.2410
Female education	-0.09	-0.82	0.4114
Female health	0.01	0.09	0.9308
Presence of husbands and/or children with poor health	-0.02	-0.08	0.9357
Family income (00000's)	0.54	0.98	0.3304
Own single family dwelling	-0.77	-2.29	0.0230
Presence of dishwasher (00's)	-0.24	-0.01	0.9928
Presence of refrigerator	0.54	0.60	0.5480
Presence of freezer	-0.11	-0.59	0.5583
Presence of microwave oven	-0.59	-1.24	0.2151
Presence of garbage disposal	-0.06	-0.20	0.8433
Presence of vacuum cleaner	-0.56	-0.88	0.3819
Sex role score	-0.05	-1.36	0.1741
Constant	7.75	6.41	0.0001

Table 11 (continued)

R^2	0.23	F	3.23
Adjusted R^2	0.16	df	21 & 228
C_p	22.00	p > F	0.0001

Table 12. Regression of the level of satisfaction with goodness of main meal of the day women report in 1975 on the set of independent variables, reduced equation for the group of married women, n = 250.

Variable Level 1975	b	t	p > |t|
Female meal preparation and cleanup time (000's)	0.54	1.55	0.1217
Male house cleaning time (00's)	0.35	5.30	0.0001
Number of meals per week eaten in restaurant by family	-0.04	-2.35	0.0199
Presence of microwave oven	-0.84	-2.00	0.0469
Sex role score	-0.10	-2.78	0.0059
Constant	8.84	19.67	0.0001

R^2	0.17	F	10.19
Adjusted R^2	0.16	df	5 & 244
C_p	6.75	p > F	0.0001

Table 13. Regression of the change in the amount of time women devote to meal preparation and cleanup between 1975 and 1981 on the set of independent variables, full equation for the entire group of women, n = 360.

Variable	b	t	p > |t|
Level in 1975:			
Satisfaction with goodness of main meal of the day	14.77	1.77	0.0771
Female age	1.52	1.07	0.2858
Female meal preparation and cleanup time	-0.61	-10.17	0.0001
Female employment time	-0.08	-4.90	0.0001
Number of children	21.38	1.46	0.1459
Number of meals per week eaten in restaurant by family	-4.21	-0.75	0.4533
Female education	-13.03	-0.76	0.4460
Female health	-34.65	-1.37	0.1714
Presence of husbands and/or children with poor health	20.64	0.30	0.7621
Family income (000's)	-0.82	-0.99	0.3240
Own single family dwelling	-41.47	-0.86	0.3914
Presence of dishwasher	64.85	1.49	0.1380
Presence of refrigerator	31.19	0.24	0.8082
Presence of freezer	-4.97	-0.13	0.8959
Presence of microwave oven	-26.87	-0.37	0.7085
Presence of garbage disposal	-29.80	-0.65	0.5178
Presence of vacuum cleaner	149.17	2.49	0.0132
Sex role score	-10.40	-1.65	0.1001
Change between 1975 and 1981:			
Female employment time	-0.16	-8.86	0.0001

Table 13 (continued)

Variable	b	t	p > |t|
Marital status:			
Single 1975 & 1981	-97.32	-1.97	0.0500
Single 1975, married 1981	128.65	1.39	0.1650
Married 1975, single 1981	-214.33	-2.75	0.0063
Number of children	28.29	1.37	0.1721
Number of meals per week eaten in restaurant by family members	-6.76	-1.28	0.2031
Female educational level	-8.14	-0.27	0.7873
Female health	2.59	0.12	0.9052
Presence of husbands and/or children with poor health	-36.14	-0.70	0.4865
Family income (00's)	-0.13	-2.04	0.0424
Own single family dwelling	-16.92	-0.34	0.7354
Presence of dishwasher	105.90	2.84	0.0048
Presence of freezer	-11.73	-0.33	0.7423
Presence of microwave oven	17.97	0.47	0.6398
Presence of garbage disposal	-99.75	-2.28	0.0230
Sex role score	-13.71	-1.87	0.0626
Constant	405.96	2.11	0.0361

R^2	0.56	F	12.07
Adjusted R^2	0.51	df	34 & 325
C_p	35.00	p > F	0.0001

Table 14. Regression of the change in the amount of time women devote to meal preparation and cleanup between 1975 and 1981 on the set of independent variables, reduced equation for the entire group of women, n = 360.

Variable	b	t	p > |t|
Level in 1975:			
Female meal preparation and cleanup time	-0.61	-11.42	0.0001
Female employment time	-0.10	-6.30	0.0001
Female educational level	-23.79	-1.98	0.0481
Family income level (00's)	-0.17	-2.41	0.0165
Change between 1975 and 1981:			
Female employment time	-0.18	-11.23	0.0001
Marital status:			
Single 1975, single 1981	-118.17	-3.64	0.0003
Married 1975, single 1981	-184.80	-2.55	0.0113
Family income (00's)	-0.13	-2.31	0.0213
Presence of dishwasher	116.91	3.92	0.0001
Presence of garbage disposal	-113.49	-3.22	0.0014
Constant	600.04	9.59	0.0001

R^2	0.52	F	38.15
Adjusted R^2	0.51	df	10 & 349
C_p	11.09	p > F	0.0001

Table 15. Regression of the change in the amount of time women devote to meal preparation and cleanup between 1975 and 1981 on the set of independent variables, full equation for the group of married women, n = 250.

Variable	b	t	p > |t|
Level in 1975:			
Satisfaction with goodness of main meal of the day	26.14	2.54	0.0117
Female age	0.96	0.42	0.6756
Female meal preparation and cleanup time	-0.64	-9.36	0.0001
Female employment time	-0.11	-5.11	0.0001
Male employment time	-0.01	-0.54	0.5869
Male meal preparation and cleanup time	-0.10	-0.51	0.6093
Male house cleaning time	-0.26	-1.05	0.2952
Number of children	-11.26	-0.63	0.5265
Number of meals per week eaten in restaurant by family	-2.95	-0.53	0.6001
Female education	-0.27	-0.01	0.9888
Female health	-35.92	-1.30	0.1954
Presence of husbands and/or children with poor health	-75.49	-1.11	0.2690
Family income (00's)	-0.17	-1.99	0.0480
Own single family dwelling	-58.60	-0.81	0.4175
Presence of dishwasher	-4.72	-0.10	0.9184
Presence of refrigerator	141.36	1.05	0.2954
Presence of freezer	67.18	1.54	0.1241
Presence of microwave oven	-35.05	-0.45	0.6525
Presence of garbage disposal	11.11	0.22	0.8263
Presence of vacuum cleaner	-38.46	-0.39	0.6985
Sex role score	-4.95	-0.76	0.4455

Table 15 (continued)

Variable	b	t	p > |t|
Change between 1975 and 1981:			
Female employment time	-0.17	-8.03	0.0001
Male employment time	0.01	0.67	0.5047
Male meal preparation and cleanup time	-0.04	-0.23	0.8176
Male house cleaning time	-0.01	-0.03	0.9777
Number of children	9.46	0.38	0.7055
Number of meals per week eaten in restaurant by family members	-7.11	-1.36	0.1751
Female education	1.74	0.06	0.9542
Female health	23.39	0.96	0.3364
Presence of husbands and/or children with poor health	-104.78	-1.95	0.0526
Family income (00's)	-0.15	-2.39	0.0178
Own single family dwelling	-36.94	-0.57	0.5690
Presence of dishwasher	77.06	1.89	0.0605
Presence of freezer	47.26	1.11	0.2690
Presence of microwave oven	36.12	0.88	0.3795
Presence of garbage disposal	15.37	0.30	0.7639
Sex role score	-36.81	-4.28	0.7639
Constant	490.09	2.02	0.0448

R^2	0.69	F	12.33
Adjusted R^2	0.63	df	37 & 212
C_p	38.00	p > F	0.0001

Table 16. Regression of the change in the amount of time women devote to meal preparation and cleanup between 1975 and 1981 on the set of independent variables, reduced equation for the group of married women, n = 250.

Variable	b	t	p > |t|
Level in 1975:			
Female meal preparation and cleanup time	-0.61	-10.74	0.0001
Female employment time	-0.10	-6.03	0.0001
Male employment time	-0.03	-2.36	0.0190
Male house cleaning time	-0.25	-2.41	0.0165
Female health	-47.52	-2.59	0.0103
Family income (00's)	-0.19	-2.84	0.0049
Change between 1975 and 1981:			
Female employment time	-0.18	-9.83	0.0001
Family income (00's)	-0.10	-2.06	0.0405
Presence of dishwasher	104.80	3.31	0.0011
Presence of garbage disposal	-30.53	-4.42	0.0001
Constant	779.02	9.39	0.0001

R^2	0.65	F	43.67
Adjusted R^2	0.63	df	10 & 239
C_p	2.36	p > F	0.0001

Table 17. Regression of the change in the level of satisfaction with goodness of main meal of the day as reported by women between 1975 and 1981 on the set of independent variables, full equation for the entire group of women, n = 360.

Variable	b	t	p > |t|
Level in 1975:			
Satisfaction with goodness of the main meal of the day	-0.68	-12.87	0.0001
Female age	0.03	3.20	0.0015
Female meal preparation and cleanup time (000's)	-0.22	-0.51	0.6110
Female house cleaning time (000's)	-0.64	-1.30	0.1942
Female employment time (000's)	-0.32	-2.74	0.0064
Number of children	0.21	2.26	0.0242
Number of meals per week eaten in restaurant by family	-0.05	-1.37	0.1719
Female education	-0.01	-0.11	0.9104
Female health	-0.01	-0.08	0.9382
Presence of husbands and/or children with poor health	0.53	1.23	0.2187
Family income (00000's)	-0.19	-0.36	0.7190
Own single family dwelling	-0.18	-0.60	0.5572
Presence of dishwasher	-0.51	-1.84	0.0666
Presence of refrigerator	-1.58	-1.95	0.0522
Presence of freezer	-0.32	-1.34	0.1826
Presence of microwave oven	-1.19	-2.63	0.0091
Presence of garbage disposal	0.42	1.46	0.1453
Presence of vacuum cleaner	0.14	0.36	0.7166
Sex role score	-0.05	-1.24	0.2175
Change between 1975 and 1981:			
Female meal preparation and cleanup time (0000's)	0.66	0.19	0.8510
Female house cleaning time (000's)	-0.53	-1.21	0.2259

Table 17 (continued)

Variable	b	t	p > |t|
Female employment time (000's)	-0.53	-2.83	0.0050
Marital status:			
Single 1975 & 1981	0.29	0.90	0.3681
Single 1975, married 1981	-0.12	-0.21	0.8349
Married 1975, single 1981	-0.66	-1.33	0.1862
Number of children	0.22	1.67	0.0969
Number of meals per week eaten in restaurant by family members	-0.03	-0.99	0.3249
Female educational level	0.17	0.87	0.3836
Female health	-0.25	-1.82	0.0701
Presence of husbands and/or children with poor health	0.12	0.36	0.7161
Family income (00000's)	0.79	1.92	0.0553
Own single family dwelling	0.10	0.30	0.7615
Presence of dishwasher	-0.57	-2.41	0.0166
Presence of freezer	-0.16	-0.51	0.6100
Presence of microwave oven	0.44	1.79	0.0751
Presence of garbage disposal	0.16	0.57	0.5711
Sex role score	-0.01	-0.22	0.8237
Constant	6.54	5.29	0.0001

R^2	0.49	F	8.22
Adjusted R^2	0.43	df	37 & 322
C_p	38.00	p > F	0.0001

Table 18. Regression of the change in the level of satisfaction with goodness of main meal of the day as reported by women between 1975 and 1981 on the set of independent variables, reduced equation for the entire group of women, n = 360.

Variable	b	t	p > |t|
Level in 1975:			
Satisfaction with goodness of main meal of the day	-0.72	-15.18	0.0001
Female age	0.03	4.92	0.0001
Female employment time (in 000's)	-0.29	-3.18	0.0016
Number of children	0.18	2.35	0.0195
Own single family dwelling	-0.48	-2.39	0.0173
Presence of dishwasher	-0.59	-2.52	0.0122
Presence of microwave	-1.48	-3.67	0.0003
Presence of garbage disposal	0.51	2.21	0.0275
Change between 1975 and 1981:			
Female employment time (000's)	-1.42	-4.03	0.0001
Number of children	0.27	2.41	0.0166
Female health	-0.29	-3.31	0.0010
Presence of dishwasher	-0.61	-2.80	0.0053
Constant	4.42	8.18	0.0001

R^2	0.45	F	23.25
Adjusted R^2	0.43	df	12 & 347
C_p	13.06	p > F	0.0001

Table 19. Regression of the change in the level of satisfaction with goodness of main meal of the day as reported by women between 1975 and 1981 on the set of independent variables, full equation for the group of married women, n = 250.

Variable	b	t	p > |t|
Level in 1975:			
Satisfaction with goodness of main meal of the day	-0.69	-10.67	0.0001
Female age	0.01	0.35	0.7289
Female meal preparation and cleanup time (000's)	0.31	0.62	0.5344
Female house cleaning time (000's)	-0.78	-1.31	0.1929
Female employment time (000's)	-0.33	-2.22	0.0277
Male employment time (000's)	-0.29	-2.16	0.0317
Male meal preparation and cleanup time (00's)	0.43	3.72	0.0003
Male house cleaning time (00's)	-0.43	-2.75	0.0064
Number of children	0.07	0.66	0.5114
Number of meals per week eaten in restaurant by family (000's)	0.74	0.02	0.9830
Female education	0.06	0.48	0.6286
Female health	-0.29	-1.67	0.0962
Presence of husbands and/or children with poor health	0.11	0.25	0.8057
Family income (000000's)	0.22	0.04	0.9662
Own single family dwelling	0.42	0.94	0.3504
Presence of dishwasher	-0.62	-2.14	0.0334
Presence of refrigerator	-0.97	-1.17	0.2444
Presence of freezer	-0.67	-2.49	0.0135
Presence of microwave oven	-0.86	-1.79	0.0745
Presence of garbage disposal	0.26	0.82	0.4160
Presence of vacuum cleaner	-1.58	-2.54	0.0119
Sex role score	-0.05	-1.21	0.2286

Table 19 (continued)

Variable	b	t	p > |t|
Change between 1975 and 1981:			
Female meal preparation and cleanup time (0000)	-0.41	-0.10	0.9228
Female house cleaning time (000's)	-0.36	-0.67	0.5047
Female employment time (000's)	-0.44	-2.78	0.0059
Male employment time (000's)	-0.33	-2.93	0.0038
Male meal preparation and cleanup time (00's)	0.20	2.10	0.0374
Male house cleaning time (00's)	-0.18	-1.55	0.1217
Number of children	0.10	0.66	0.5099
Number of meals per week eaten in restaurant by family members	0.02	0.67	0.5029
Female educational level	0.32	1.73	0.0844
Female health	-0.42	-2.77	0.0062
Presence of husbands and/or children with poor health	0.18	0.54	0.5909
Family income (00000's)	0.64	1.62	0.1058
Own single family dwelling	-0.10	-0.25	0.8053
Presence of dishwasher	-0.24	-0.93	0.3534
Presence of freezer	-0.65	-2.43	0.0159
Presence of microwave oven	0.27	1.06	0.2904
Presence of garbage disposal	-0.02	-0.05	0.9628
Sex role score	-0.06	-1.02	0.3110
Constant	9.32	6.05	0.0001

R^2	0.58	F	7.23
Adjusted R^2	0.50	df	40 & 209
C_p	41.00	p > F	0.0001

Table 20. Regression of the change in the level of satisfaction with goodness of main meal of the day as reported by women between 1975 and 1981 on the set of independent variables, reduced equation for the group of married women, n = 250.

Variable	b	Beta	t
Level in 1975:			
Satisfaction with goodness of main meal	-0.71	-12.90	0.0001
Female age	0.02	2.58	0.0105
Female employment time (000's)	-0.51	-5.23	0.0001
Male meal preparation time (00's)	0.35	4.12	0.0001
Presence of dishwasher	-0.76	-4.05	0.0001
Presence of refrigerator	-1.78	-2.30	0.0223
Presence of vacuum cleaner	-0.94	-2.22	0.0274
Change between 1975 and 1981:			
Female employment time (000's)	-0.44	-4.10	0.0001
Female health	-0.29	-3.05	0.0025
Constant	7.60	8.15	0.0001

R^2	0.48	F	25.00
Adjusted R^2	0.47	df	9 & 240
C_p	27.02	p > F	0.0001

Table 21. Regression of the amount of time women devote to house cleaning in 1975 on the set of exogenous variables, full equation for the entire group of women, n = 360.

Variable Level 1975	b	t	p > |t|
Female age	-0.37	-0.33	0.7386
Female employment time	-0.08	-6.66	0.0001
Presence of spouse	67.67	1.91	0.0571
Number of children	15.61	1.38	0.1667
Female education	-13.42	-1.03	0.3038
Female health	22.28	1.37	0.1668
Presence of husbands and/or children with poor health	-40.65	-1.18	0.2386
Family income (00's)	-0.22	-3.15	0.0018
Own single family dwelling	-4.87	-0.14	0.8861
Presence of dishwasher	104.41	3.29	0.0011
Presence of refrigerator	35.29	0.31	0.7579
Presence of freezer	17.62	0.70	0.4823
Presence of microwave oven	19.44	0.33	0.7439
Presence of garbage disposal	28.67	0.81	0.4192
Presence of vacuum cleaner	-31.57	-0.61	0.5404
Importance of neat house	48.51	2.27	0.0240
Importance of neat house compared to other activities	-72.01	-3.46	0.0006
Sex role score	10.82	2.29	0.0006
Constant	253.97	1.55	0.1231

R^2	0.25	F	6.36
Adjusted R^2	0.21	df	18 & 341
C_p	19.00	p > F	0.0001

Table 22. Regression of the amount of time women devote to house cleaning in 1975 on the set of independent variables, reduced equation for the entire group of women, n = 360.

Variable Level 1975	b	t	p > |t|
Female employment time	-0.08	-7.39	0.0001
Number of children	23.43	2.75	0.0064
Family income (00's)	-0.15	-2.39	0.0174
Presence of dishwasher	119.71	4.44	0.0001
Importance of neat house	56.23	2.83	0.0049
Importance of neat house compared to other activities	-65.87	-3.42	0.0007
Sex role score	10.08	2.27	0.0238
Constant	281.41	3.39	0.0008

R^2	0.24	F	15.32
Adjusted R^2	0.22	df	7 & 352
C_p	5.19	p > F	0.0001

Table 23. Regression of the amount of time women devote to house cleaning in 1975 on the set of independent variables, full equation for the group of married women, n = 250.

Variable Level 1975	b	t	p > |t|
Female age	-0.66	-0.38	0.7060
Female employment time	-0.08	-4.78	0.0001
Male employment time (00's)	0.01	0.53	0.5936
Male meal preparation time	0.24	1.55	0.1215
Male house cleaning time	-0.04	-0.26	0.7933
Number of children	6.48	0.44	0.6592
Female education	-3.01	-0.17	0.8645
Female health	28.27	1.37	0.1713
Presence of husbands and/or children with poor health	-55.68	-1.30	0.1961
Family income (00's)	-0.30	-3.81	0.0002
Own single family dwelling	-13.48	-0.26	0.7918
Presence of dishwasher	124.41	3.26	0.0013
Presence of refrigerator	-1.14	-0.01	0.9934
Presence of freezer	24.34	0.84	0.4010
Presence of microwave oven	17.91	0.25	0.7997
Presence of garbage disposal	24.85	0.56	0.5762
Presence of vacuum cleaner	82.17	0.84	0.4012
Importance of neat house	114.70	3.69	0.0003
Importance of neat house compared to other activities	-45.98	-1.60	0.1113
Sex role score	18.79	3.25	0.0013
Constant	-83.68	-0.38	0.7059

R^2	0.28	F	4.45
Adjusted R^2	0.22	df	20 & 229
C_p	21.00	p > F	0.0001

Table 24. Regression of the amount of time women devote to house cleaning in 1975 on the set of independent variables, reduced equation for the group of married women, n = 250.

Variable Level 1975	b	t	p > |t|
Female employment time	-0.06	-4.42	0.0001
Family income (00's)	-0.25	-3.73	0.0002
Presence of dishwasher	147.85	4.75	0.0001
Importance of neat house	98.41	3.83	0.0002
Sex role score	18.89	3.65	0.0003
Constant	-9.78	-0.11	0.9113

R^2	0.24	F	15.22
Adjusted R^2	0.20	df	5 & 244
C_p	4.38	p > F	0.0001

Table 25. Regression of the level of satisfaction with cleanliness of the home women report in 1975 on the set of independent variables, full equation for the entire group of women, n = 360.

Variable Level 1975	b	t	p > |t|
Female age	-0.03	-2.40	0.0168
Female meal preparation and cleanup time (000's)	-0.38	-0.71	0.4779
Female house cleaning time (000's)	-0.37	-0.67	0.5057
Female employment time (000's)	0.18	1.29	0.1988
Presence of a spouse	1.71	4.65	0.0001
Number of children	-0.16	-1.34	0.1800
Female education	-0.14	-1.05	0.2969
Female health	0.07	0.47	0.6380
Presence of husbands and/or children with poor health	-0.44	-1.28	0.2033
Family income (0000's)	-0.26	-3.51	0.0005
Own single family dwelling	0.43	1.24	0.2144
Presence of dishwasher	-0.82	-2.48	0.0135
Presence of refrigerator	0.44	0.38	0.7072
Presence of freezer	-0.11	-0.43	0.6683
Presence of microwave oven	-0.55	-0.91	0.3649
Presence of garbage disposal	1.35	3.69	0.0003
Presence of vacuum cleaner	-0.53	-1.00	0.3167
Importance of neat house	-0.06	-0.29	0.7747
Importance of neat house compared to other activities	0.03	0.13	0.8965
Sex role score	0.85	1.77	0.0775
Constant	7.06	4.13	0.0001

R^2	0.18	F	3.83
Adjusted R^2	0.14	df	20 & 339
C_p	21.00	p > F	0.0001

Table 26. Regression of the level of satisfaction with cleanliness of the home women report in 1975 on the set of independent variables, reduced equation for the entire group of women, n = 360.

Variable Level 1975	b	t	p > |t|
Female age	-0.02	-2.47	0.0142
Female employment time (000's)	0.26	2.35	0.0194
Presence of a spouse	1.52	5.21	0.0001
Family income (0000's)	-0.20	-3.02	0.0027
Presence of dishwasher	-0.84	-2.93	0.0036
Presence of garbage disposal	1.15	3.47	0.0006
Constant	6.79	13.62	0.0001

R^2	0.15	F	10.73
Adjusted R^2	0.14	df	6 & 353
C_p	5.34	p > F	0.0001

Table 27. Regression of the level of satisfaction with cleanliness of home women report in 1975 on the set of independent variables, full equation for the group of married women, n = 250.

Variable Level 1975	b	t	p > |t|
Female age	0.01	0.83	0.4056
Female meal preparation and cleanup time (000's)	0.35	0.67	0.5008
Female house cleaning time (0000's)	0.83	0.17	0.8679
Female employment time (000's)	-0.23	-1.59	0.1144
Male employment time (000's)	0.30	2.48	0.0138
Male meal preparation and cleanup time (00's)	0.12	1.02	0.3108
Male house cleaning time (00's)	0.13	1.27	0.2059
Number of children	-0.04	-0.34	0.7313
Female education	-0.16	-1.18	0.2377
Female health	0.06	0.41	0.6838
Presence of husbands and/or children with poor health	-0.43	-1.31	0.1926
Family income (00000's)	-0.87	-1.35	0.1790
Own single family dwelling	-0.29	-0.74	0.4584
Presence of dishwasher	-0.79	-2.60	0.0100
Presence of refrigerator	0.01	0.01	0.9948
Presence of freezer	-0.39	-1.77	0.0790
Presence of microwave oven	-0.20	-0.37	0.7166
Presence of garbage disposal	1.04	2.97	0.0033
Presence of vacuum cleaner	-0.14	-0.19	0.8521
Importance of neat house	0.32	1.34	0.1811
Importance of neat house compared to other activities	-0.28	-1.27	0.2058
Sex role score	-0.06	-1.44	0.1519
Constant	7.79	4.53	0.0001

Table 27 (continued)

R^2	0.23	F	3.11
Adjusted R^2	0.16	df	22 & 227
C_p	23.00	p > F	0.0001

Table 28. Regression of the level of satisfaction with cleanliness of the home women report in 1975 on the set of independent variables, reduced equation for the group of married women, n = 250.

Variable Level 1975	b	t	p > |t|
Female meal preparation and cleanup time (00's)	0.10	2.69	0.0078
Male employment time (000's)	0.20	2.19	0.0298
Presence of dishwasher	-1.06	-4.47	0.0001
Presence of garbage disposal	0.66	2.37	0.0186
Importance of neat house	0.60	3.90	0.0022
Constant	5.15	8.21	0.0001

R^2	0.17	F	9.64
Adjusted R^2	0.15	df	5 & 244
C_p	8.77	p > F	0.0001

Table 29. Regression of the change in the amount of time women devote to house cleaning between 1975 and 1981 on the set of independent variables, full equation for the entire group of women, n = 360.

Variable	b	t	p > |t|
Level in 1975:			
Satisfaction with cleanliness of the home	1.78	0.36	0.7223
Female age	-0.61	-0.52	0.6052
Female house cleaning time	-0.68	-13.12	0.0001
Female employment time	-0.06	-4.10	0.0001
Number of children	15.81	1.37	0.1714
Female education	-5.74	-0.42	0.6755
Female health	9.48	0.45	0.6511
Presence of husbands and/or children with poor health	82.69	1.49	0.1361
Family income (000's)	0.81	1.19	0.2338
Own single family dwelling	3.21	0.08	0.9351
Presence of dishwasher	-12.69	-0.35	0.7254
Presence of refrigerator	-53.43	-0.51	0.6126
Presence of freezer	-5.16	-0.17	0.8679
Presence of microwave oven	-94.23	-1.63	0.1040
Presence of garbage disposal	26.70	0.71	0.4777
Presence of vacuum cleaner	87.86	1.83	0.0688
Importance of neat house	3.49	0.15	0.8845
Importance of neat house compared to other activities	8.86	0.38	0.7066
Sex role score	4.05	0.78	0.4341
Change between 1975 and 1981:			
Female employment time	-0.11	-7.06	0.0001
Marital status:			
Single 1975 & 1981	18.14	0.45	0.6519
Single 1975, married 1981	137.10	1.84	0.0670
Married 1975, single 1981	8.75	0.14	0.8911

Table 29 (continued)

Variable	b	t	p > |t|
Number of children	2.85	0.17	0.8682
Female educational level	-60.55	-2.44	0.0154
Female health	-10.70	-0.61	0.5456
Presence of husbands and/or children with poor health	50.61	1.19	0.2336
Family income (000's)	-0.35	-0.70	0.4913
Own single family dwelling	-38.17	-0.95	0.3439
Presence of dishwasher	29.46	0.94	0.3470
Presence of freezer	-11.29	-0.39	0.6971
Presence of microwave oven	-23.14	-0.73	0.4636
Presence of garbage disposal	-29.90	-0.85	0.3988
Importance of neat house	18.99	0.85	0.3972
Importance of neat house compared to other activities	-3.31	-0.18	0.8595
Sex role score	4.37	0.71	0.4755
Constant	78.69	0.47	0.6410

R^2	0.57	F	11.75
Adjusted R^2	0.52	df	36 & 323
C_p	37.00	p > F	0.0001

Table 30. Regression of the change in the amount of time women devote to house cleaning between 1975 and 1981 on the set of independent variables, reduced equation for the entire group of women, n = 360.

Variable	b	t	p > |t|
Level in 1975:			
Female house cleaning time	-0.68	-15.29	0.0001
Female employment time	-0.05	-4.55	0.0001
Presence of husband and/or children with poor health	61.95	2.22	0.0273
Change between 1975 and 1981:			
Female employment time	-0.11	-8.87	0.0001
Female educational level	-54.31	-2.77	0.0058
Constant	191.14	7.71	0.0001

R^2	0.53	F	80.67
Adjusted R^2	0.53	df	5 & 354
C_p	1.65	p > F	0.0001

Table 31. Regression of the change in the amount of time women devote to house cleaning between 1975 and 1981 on the set of independent variables, full equation for the group of married women, n = 250.

Variable	b	t	p > |t|
Level in 1975:			
Satisfaction with cleanliness of the home	-0.78	-0.11	0.9099
Female age	2.12	1.19	0.2375
Female house cleaning time	-0.84	-15.52	0.0001
Female employment time	-0.04	-2.49	0.0135
Male employment time	0.01	0.42	0.6781
Male meal preparation and cleanup time	-0.04	-0.30	0.7677
Male house cleaning time	0.12	0.60	0.5480
Number of children	38.47	2.86	0.0046
Female education	-2.44	-0.16	0.8758
Female health	6.40	0.28	0.7774
Presence of husbands and/or children with poor health	118.45	2.23	0.0267
Family income (000's)	0.41	0.61	0.5446
Own single family dwelling	-86.16	-1.51	0.1319
Presence of dishwasher	30.43	0.82	0.4136
Presence of refrigerator	-53.09	-0.48	0.6287
Presence of freezer	-19.21	-0.56	0.5748
Presence of microwave oven	-87.30	-1.48	0.1414
Presence of garbage disposal	34.18	0.85	0.3981
Presence of vacuum cleaner	228.13	2.82	0.0052
Importance of neat house	17.30	0.53	0.5933
Importance of neat house compared to other activities	-22.29	-0.82	0.4124
Sex role score	12.87	2.43	0.0160
Change between 1975 and 1981:			
Female employment time	-0.10	-6.14	0.0001
Male employment time	0.01	0.76	0.4509

Table 31 (continued)

Variable	b	t	p > |t|
Male meal preparation and cleanup time	-0.08	-0.66	0.5110
Male house cleaning time	0.34	2.28	0.0234
Number of children	23.59	1.18	0.2394
Female education	-46.35	-1.91	0.0570
Female health	-9.18	-0.48	0.6346
Presence of husbands and/or children with poor health	-68.49	-1.63	0.1047
Family income (000's)	-0.66	-1.44	0.1526
Own single family dwelling	-103.30	-2.03	0.0438
Presence of dishwasher	39.98	1.23	0.2199
Presence of freezer	-35.95	-1.06	0.2884
Presence of microwave oven	-17.29	-0.52	0.6018
Presence of garbage disposal	57.26	1.40	0.1628
Importance of neat house	1.41	0.06	0.9538
Importance of neat house compared to other activities	-18.10	-0.82	0.4119
Sex role score	8.18	1.17	0.2428
Constant	-131.32	-0.58	0.5654

R^2	0.75	F	15.90
Adjusted R^2	0.70	df	39 & 210
C_p	40.00	p > F	0.0001

Table 32. Regression of the change in the amount of time women devote to house cleaning between 1975 and 1981 on the set of independent variables, reduced equation for the group of married women, n = 250.

Variable	b	t	p > |t|
Level in 1975:			
Female house cleaning time	-0.82	-18.88	0.0001
Female employment time	-0.04	-3.37	0.0009
Number of children	28.20	3.23	0.0012
Presence of husbands and/or children with poor health	183.67	4.45	0.0001
Presence of vacuum cleaner	186.09	3.27	0.0012
Change between 1975 and 1981:			
Female employment time	-0.10	-8.33	0.0001
Male house cleaning time	0.23	3.15	0.0019
Female educational level	-51.35	-2.84	0.0050
Presence of husbands and/or children with poor health	122.12	3.77	0.0002
Constant	10.83	0.17	0.8683

R^2	0.72	F	68.54
Adjusted R^2	0.71	df	9 & 240
C_p	3.62	p > F	0.0001

Table 33. Regression of the change in the level of satisfaction with cleanliness of home as reported by women between 1975 and 1981 on the set of independent variables, full equation for the entire group of women, n = 360.

Variable	b	t	p > |t|
Level in 1975:			
Satisfaction with cleanliness of the home	-0.61	-14.82	0.0001
Female age (000's)	-0.99	-0.10	0.9178
Female meal preparation and cleanup time (00's)	-0.15	-0.32	0.0014
Female house cleaning time (0000's)	-0.57	-0.11	0.9130
Female employment time (000's)	-0.43	-3.49	0.0006
Number of children	-0.40	-4.16	0.0001
Female education	-0.27	-2.38	0.0178
Female health	0.35	2.03	0.0427
Presence of husbands and/or children with poor health	0.69	1.54	0.1255
Family income (0000's)	-0.14	-2.46	0.0144
Own single family dwelling	-0.35	-1.08	0.2793
Presence of dishwasher	-0.77	-2.61	0.0095
Presence of refrigerator	-1.04	-1.21	0.2261
Presence of freezer	0.11	0.42	0.6759
Presence of microwave oven	1.06	2.24	0.0259
Presence of garbage disposal	0.11	0.37	0.7131
Presence of vacuum cleaner	0.90	2.21	0.0276
Importance of neat house	0.62	3.19	0.0015
Importance of neat house compared to other activities	-0.06	-0.29	0.7729
Sex role score	-0.08	-1.83	0.0685
Change between 1975 and 1981:			
Female meal preparation and cleanup time (00's)	-0.14	-3.65	0.0003

Table 33 (continued)

Variable	b	t	p > |t|
Female house cleaning time (000's)	-0.91	-2.02	0.0444
Female employment time (000's)	-0.17	-1.18	0.2381
Marital status:			
Single 1975 & 1981	0.08	0.25	0.8036
Single 1975, married 1981	1.50	2.42	0.0163
Married 1975, single 1981	-0.84	-1.60	0.1101
Number of children	0.05	0.35	0.7254
Female educational level	0.24	1.23	0.2236
Female health	0.14	0.93	0.3524
Presence of husbands and/or children with poor health	0.25	0.72	0.4749
Family income (00000's)	0.75	1.82	0.0697
Own single family dwelling	-0.46	-1.40	0.1638
Presence of dishwasher	-0.52	-2.03	0.0429
Presence of freezer	-0.39	-1.64	0.1023
Presence of microwave oven	0.02	0.07	0.9481
Presence of garbage disposal	0.75	2.57	0.0108
Importance of neat house	0.10	0.55	0.5861
Importance of neat house compared to other activities	-0.35	-2.20	0.0286
Sex role score	0.06	1.27	0.2050
Constant	5.42	3.69	0.0003

R^2	0.67	F	16.37
Adjusted R^2	0.63	df	39 & 320
C_p	40.00	p > F	0.0001

Table 34. Regression of the change in the level of satisfaction with cleanliness of home as reported by women between 1975 and 1981 on the set of independent variables, reduced equation for the entire group of women, n = 360.

Variable	b	t	p > |t|
Level in 1975:			
Satisfaction with cleanliness of the home	-0.62	-16.64	0.0001
Female meal preparation and cleanup time (00's)	-0.13	-3.41	0.0007
Female employment time (000's)	-0.32	-3.41	0.0007
Number of children	-0.43	-6.55	0.0001
Female education	-0.39	-4.71	0.0001
Female health	0.30	2.72	0.0069
Family income (0000's)	-0.15	-3.18	0.0016
Presence of dishwasher	-0.56	-2.55	0.0112
Presence of microwave oven	1.37	3.26	0.0012
Importance of neat house	0.55	3.59	0.0004
Change between 1975 and 1981:			
Female meal preparation and cleanup time (00's)	-0.11	-3.87	0.0001
Family income (00000's)	0.94	2.42	0.0163
Presence of garbage disposal	0.63	2.66	0.0082
Importance of neat house compared to other activities	-0.32	-2.71	0.0071
Sex role score	-0.10	2.47	0.0142
Constant	4.74	6.25	0.0001

Table 34 (continued)

R^2	0.63	F	39.19
Adjusted R^2	0.62	df	15 & 344
C_p	25.80	p > F	0.0001

Table 35. Regression of the change in the level of satisfaction with cleanliness of home as reported by women between 1975 and 1981 on the set of independent variables, full equation for the group of married women, n = 250.

Variable	b	t	p > |t|
Level in 1975:			
Satisfaction with cleanliness of the home	-0.65	-10.85	0.0001
Female age	-0.04	-2.47	0.0142
Female meal preparation and cleanup time (000's)	-0.49	-0.88	0.3775
Female house cleaning time (000's)	0.27	0.38	0.7011
Female employment time (000's)	-0.45	-2.66	0.0085
Male employment time (000's)	0.17	1.10	0.2733
Male meal preparation and cleanup time (00's)	0.29	2.28	0.0235
Male house cleaning time (000's)	-0.99	-0.58	0.5634
Number of children	-0.63	-5.21	0.0001
Female education	-0.26	-1.89	0.0596
Female health	0.20	1.02	0.3079
Presence of husbands and/or children with poor health	0.77	1.64	0.1031
Family income (0000's)	-0.21	-3.40	0.0008
Own single family dwelling	0.68	0.50	0.1806
Presence of dishwasher	-0.81	-2.48	0.0139
Presence of refrigerator	-0.54	-0.57	0.5699
Presence of freezer	-0.07	-0.25	0.8060
Presence of microwave oven	1.00	1.92	0.0567
Presence of garbage disposal	0.50	1.38	0.1697
Presence of vacuum cleaner	-0.37	-0.52	0.6056
Importance of neat house	0.43	1.53	0.1270
Importance of neat house compared to other activities	0.36	1.48	0.1411
Sex role score	-0.12	-2.62	0.0096

Table 35 (continued)

Variable	b	t	p > |t|
Change between 1975 and 1981:			
Female meal preparation and cleanup time (00's)	-0.10	-2.23	0.0266
Female house cleaning time (000's)	-0.32	-0.53	0.5994
Female employment time (0000's)	-0.69	-0.39	0.6961
Male employment time (0000's)	0.97	0.75	0.4516
Male meal preparation and cleanup time (00's)	-0.15	-1.42	0.1578
Male house cleaning time (00's)	0.15	1.12	0.2605
Number of children	-0.02	-0.14	0.8915
Female educational level	0.31	1.47	0.1434
Female health	0.13	0.75	0.4541
Presence of husbands and/or children with poor health	0.45	1.22	0.2250
Family income (00000's)	0.82	2.01	0.0463
Own single family dwelling	-0.51	-1.13	0.2608
Presence of dishwasher	-0.86	-3.02	0.0028
Presence of freezer	-0.85	-2.86	0.0047
Presence of microwave oven	0.06	0.22	0.8227
Presence of garbage disposal (00's)	-0.26	-0.01	0.9943
Importance of neat house (00's)	-0.52	-0.03	0.9805
Importance of neat house compared to other activities	-0.14	-0.70	0.4820
Sex role score	0.05	0.77	0.4406
Constant	7.16	3.48	0.0006

R^2	0.63	F	8.32
Adjusted R^2	0.55	df	42 & 207
C_p	43.00	p > F	0.0001

Table 36. Regression of the change in the level of satisfaction with cleanliness of home as reported by women between 1975 and 1981 on the set of independent variables, reduced equation for the group of married women, n = 250.

Variable	b	t	p > |t|
Level in 1975:			
Satisfaction with cleanliness of the home	-0.61	-11.52	0.0001
Female age	-0.04	-4.49	0.0001
Female employment time (in 000's)	-0.27	-2.70	0.0074
Male meal preparation and cleanup time (00's)	0.46	4.98	0.0001
Number of children	-0.59	-7.99	0.0001
Female education	-0.39	-4.00	0.0001
Family income (0000's)	-0.11	-2.36	0.0189
Presence of dishwasher	-0.66	-2.53	0.0122
Presence of microwave oven	1.08	2.51	0.0126
Importance of neat house compared to other activities	0.55	3.27	0.0013
Sex role score	-0.12	-3.49	0.0006
Change between 1975 and 1981:			
Female meal time (00's)	-0.13	-4.28	0.0001
Male house cleaning time (00's)	0.15	2.42	0.0162
Family income (00000's)	0.89	2.46	0.0145
Own single family dwelling	-0.67	-2.64	0.0090
Presence of dishwasher	-0.88	-3.59	0.0004
Presence of freezer	-0.69	-3.90	0.0001
Constant	8.01	8.71	0.0001

Table 36 (continued)

R^2	0.59	F	19.41
Adjusted R^2	0.56	df	17 & 232
C_p	15.70	p > F	0.0001

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